



Turn to the experts

## Product Data

# WeatherExpert® Ultra High Efficiency Variable Speed Single Packaged Rooftop

3 to 5 Nominal Tons

ecoblue™  technology



48/50JC\*\*04, 05, 06

48JC: Single-Package Gas Heating/Electric Cooling Rooftop Units  
50JC: Electric Cooling Rooftop Units with Optional Electric Heat  
with Puron® Refrigerant (R-410A)

**The New Carrier WeatherExpert® Ultra High Efficiency rooftop units (RTU) with EcoBlue™ Technology and variable cooling capacity control were designed by customers for customers and integrate new technology to provide value added benefits never seen in this type of equipment before.**

New major design features include:

- Patented, industry’s first high efficiency indoor fan system using Vane Axial Fan technology – with electric commutated variable speed motor.
- Reliable variable capacity compressor with DC inverter control on all sizes. Two LEDs (red and green) indicate inverter operating status and aid in troubleshooting.
- Reliable copper tube/aluminum fin condenser coil with 5/16-in. tubing to help reduce refrigerant charge verses prior designs.
- Noise filter reduces unwanted electromagnetic interference (EMI).
- Inverter reactor adds inductance to the line between the inverter and the compressor to limit current rise and protect the compressor.
- SystemVu™ unit controller with intuitive, intelligent operation.

- Reliable and proven copper tube/aluminum fin condenser coil with 5/16-in. tubing to help reduce refrigerant charge verses prior designs.
- New outdoor fan system with rugged – lightweight high impact composite fan blade and variable speed motor

48/50JC WeatherExpert® units from 3 ton to 5 tons are specifically designed to fit on Carrier roof curbs that were installed as far back as 1989, which makes replacement easy and eliminates the need for curb adapters or changing utility connections.

True variable cooling capacity control delivers SEERs up 20.0 Carrier’s highest efficiency in these type of models. All models are capable of either vertical or horizontal airflow.

The Carrier rooftop unit (RTU) was designed by customers for customers. With “no-strip” screw collars, handled access panels, and more, the unit is easy to install, easy to maintain, and easy to use. Your new 3 to 5 ton WeatherExpert Carrier rooftop unit (RTU) provides optimum comfort and control from a packaged rooftop.

Value-added features include:

- optional Humidi-MiZer® adaptive dehumidification system for improved part load humidity performance
- Puron® refrigerant (R-410A)
- single point gas and electrical connections

- Standard fully integrated SystemVu™ controls
- Fully insulated cabinet with foil faced insulation helps minimize airborne fibers and improve Indoor Air Quality
- TXV refrigerant metering system for optimum control of superheat and efficiency
- Variable capacity compressor, indoor fan and outdoor fan with internal line-break overload protection
- Units come with an easy access tool-less filter door. Filter track tilts out for filter removal and replacement. All filters are the same size in each unit.

**Installation ease**

All WeatherExpert units are field-convertible to horizontal airflow, which makes it easy to adjust to unexpected job-site complications. Lighter units make for easy replacement. Simple, fast plug-in connections to the standard SystemVu controller. Clearly labeled connections points to reduce installation time. Also, a large control box provides room to work and room to mount Carrier accessory controls.

**Easy to maintain**

With the new EcoBlue Vane Axial fan system and direct drive ECM motor — there is no longer a need to adjust belts or pulleys as in past designs. This frees up maintenance and installation time.

## Table of contents

	Page
Features/Benefits . . . . .	2
Model Number Nomenclature . . . . .	5
Capacity Ratings . . . . .	7
Physical Data . . . . .	11
Options and Accessories . . . . .	13
Base Unit Dimensions . . . . .	18
Accessory Dimensions . . . . .	24
Performance Data . . . . .	25
Fan Data . . . . .	42
Electrical Data . . . . .	67
Typical Wiring Diagrams . . . . .	91
Sequence of Operation . . . . .	97
Application Data . . . . .	98
Guide Specifications . . . . .	100

Easy access handles by Carrier provide quick and easy access to all normally serviced components. Our “no-strip” screw system has superior holding power and guides screws into position while preventing the screw from stripping the unit’s metal.

Sloped, corrosion resistant composite drain pan sheds water; and won’t rust.

### Easy to use

The SystemVu controller by Carrier puts all connections and troubleshooting points in one convenient place. Most low voltage connections are made to the same board and make it easy to access it. Setting up the fan is simple by an intuitive switch and rotary dial arrangement. Carrier rooftops have high and low pressure switches, a filter drier, and 2-in. filters standard.

### EcoBlue Technology

Direct drive EcoBlue™ Technology indoor fan system uses Vane Axial fan design and electrically commutated motors. Full fan assembly slides out for easy maintenance and service.

This new Vane Axial design over past belt drive systems has 75% fewer moving parts, uses up to 40% less energy and has no fan belts, blower bearings and shaft.

### Streamlined control and integration

Carrier SystemVu controllers make connecting WeatherExpert® rooftops into existing building automation systems easy. The units are compatible with conventional thermostat controls or space sensors.

### Operating efficiency and flexibility

The 48/50JC rooftops exceed ASHRAE (American Society of Heating, Refrigerating, and Air-Conditioning Engineers) 90.1-2016, IECC<sup>1</sup>-2018 (International Energy Conservation Code) minimum efficiency requirements.

### Comfort control

Carrier’s patented Humidi-MiZer® adaptive dehumidification system is an all-inclusive factory-installed option on gas heating/electric cooling and electric cooling/electric heat models. This system provides reliable, flexible operation to meet indoor part load sensible and latent requirements.

### SystemVu™ control

Carrier’s SystemVu controller is standard on these new variable capacity WeatherExpert models. This controller takes on a whole new approach to provide an intuitive, intelligent controller that not only monitors and controls the unit, but also provides linkage to multiple building automation systems.

Each SystemVu controller makes it easy to set up, service, troubleshoot, gain historical data, generate reports and provide comfort only Carrier is noted for.

### Key features include:

- Easy to read back lit four line text screen for superior visibility.
- Quick operational condition LEDs of: Run, Alert, and Fault.
- Simple navigation with large keypad buttons of: Navigation arrows, Test, Back, Enter and Menu.
- Capable of being controlled with a conventional thermostat, space sensor or build automation system.

- Service capabilities include:
  - Auto run test
  - Manual run test
  - Component run hours and starts
  - Commissioning reports
  - Data logging
- Full range of diagnosis:
  - Read refrigerant pressures without the need of gages
  - Sensor faults
  - Compressor reverse rotation
  - Economizer diagnostics that meet California Title 24 requirements
- Quick data transfer via USB port:
  - Unit configuration uploading/downloading
  - Data logging
  - Software upgrades
- Built in capacity for:
  - i-Vu® open systems
  - BACnet<sup>2</sup> systems
  - CCN systems
- Configuration and alarm point capability:
  - Contain over 100 alarm codes
  - Contain over 260 status, troubleshooting, diagnostic and maintenance points
  - Contain over 270 control configuration setpoints
- Contain the capability to provide fan based dehumidification which automatically adjusts the indoor fan speed to help provide humidification in the conditioned space.

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1. IECC is a registered trademark of the International Code Council, Inc.

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2. BACnet is a registered trademark of ASHRAE (American Society of Heating, Refrigeration and Air-Conditioning Engineers).



- Ultra Efficient Variable Speed Outdoor Fan**
- Non-corrosive blade
  - Balanced blade
  - Efficient airflow collar
  - ECM design

- Ultra Efficient Variable Speed Vane Axial Indoor Fan**
- Direct drive ECM
  - Slow ramp up
  - Phase loss protection
  - No belts or pulleys
  - Slide out assembly

- Unit Controls**  
Standard Intelligent SystemVu™ controller
- Large text display
  - Quick LED status
  - i-Vu®, CCN, BACnet®
  - Quick LED status
  - USB data port
  - Stat or sensor capability
  - Refrigerant pressure without gauges

- Heating**
- Gas Heating
    - Induced draft heat exchanger
    - Multiple sizes available
    - Efficient dimpled gas design
  - Electric Heating
    - Integral Fusing
    - Multi kW sizes available
    - Terminal block connections
    - Single point power

- Ultra Efficient Coils**
- Round tube/plate fin
  - Copper/Aluminum
  - Special coating available
  - New 5/16-in. condenser tube
  - Less refrigerant than past designs

- Ultra Efficient Variable Speed Compression**
- Fully hermetic scroll
  - Internally protected
  - Wide range of capacity control

- Cabinet Design**
- Heavy gage base rails
  - Large handled access panels
  - Tool-less filter access door
  - Replacement "original" fit design



## 48JC MODEL NUMBER NOMENCLATURE

Position:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Example:	4	8	J	C	D	V	0	6	A	2	A	5	-	3	A	0	A	0

### Unit Heat Type

48 - Gas Heat Packaged Rooftop

### Model Series - WeatherMaster®

JC - Ultra High Efficiency

### Heat Options

D = Low Gas Heat  
 E = Medium Gas Heat  
 F = High Gas Heat  
 S = Low Heat with Stainless Steel HX (Heat Exchanger)  
 R = Medium Heat with Stainless Steel HX  
 T = High Heat with Stainless Steel HX

### Refrig. Systems Options

V = Variable Speed Cooling Capacity  
 W = Variable Speed Cooling Capacity with Humidi-MiZer® System

### Cooling Tons

04 - 3 ton  
 05 - 4 ton  
 06 - 5 ton

### Sensor Options

A = None  
 B = RA (Return Air) Smoke Detector  
 C = SA (Supply Air) Smoke Detector  
 D = RA + SA Smoke Detector  
 E = CO<sub>2</sub>  
 F = RA Smoke Detector and CO<sub>2</sub>  
 G = SA Smoke Detector and CO<sub>2</sub>  
 H = RA + SA Smoke Detector and CO<sub>2</sub>  
 J = Condensate Overflow Switch  
 K = Condensate Overflow Switch and RA Smoke Detector  
 L = Condensate Overflow Switch and RA and SA Smoke Detectors  
 M = Condensate Overflow Switch and SA Smoke Detector  
 N = Condensate Overflow Switch and CO<sub>2</sub>  
 P = Condensate Overflow Switch w/ CO<sub>2</sub> + RA Smoke Detector  
 Q = Condensate Overflow Switch w/ CO<sub>2</sub> + SA Smoke Detector  
 R = Condensate Overflow Switch w/ CO<sub>2</sub> + RA and SA Smk. Det.

### Vane Axial Fan - Indoor Fan Options

1 = Direct Drive EcoBlue™ - Standard Static  
 2 = Direct Drive EcoBlue - Medium Static  
 3 = Direct Drive EcoBlue - High Static

### Coil Options - Round Tube/Plate Fin Condenser Coil (Outdoor - Indoor - Hail Guard)

A = Al/Cu - Al/Cu  
 B = Precoat Al/Cu - Al/Cu  
 C = E-coat Al/Cu - Al/Cu  
 D = E-coat Al/Cu - E-coat Al/Cu  
 E = Cu/Cu - Al/Cu  
 F = Cu/Cu - Cu/Cu  
 M = Al/Cu - Al/Cu — Louvered Hail Guard  
 N = Precoat Al/Cu - Al/Cu — Louvered Hail Guard  
 P = E-coat Al/Cu - Al/Cu — Louvered Hail Guard  
 Q = E-coat Al/Cu - E-coat Al/Cu — Louvered Hail Guard  
 R = Cu/Cu - Al/Cu — Louvered Hail Guard  
 S = Cu/Cu - Cu/Cu — Louvered Hail Guard

### Factory Assigned

0 = Standard  
 1 = LTL

### Electrical Options

A = None  
 B = HACR Breaker  
 C = Non-Fused Disconnect (NFD)  
 D = Thru-The-Base (TTB) Connections  
 E = HACR Circuit Breaker and TTB  
 F = Non-Fused Disconnect and TTB  
 N = Phase Monitor Protection  
 P = Phase Monitor and HACR  
 Q = Phase Monitor and NFD  
 R = Phase Monitor and TTB  
 S = Phase Monitor and HACR and TTB  
 T = Phase Monitor and NFD and TTB

### Service Options

#### (Foil Face Insulation Standard)

0 = None  
 1 = Unpowered Convenience Outlet  
 2 = Powered Convenience Outlet  
 3 = Hinged Access Panels  
 4 = Hinged Access Panels and Unpowered Convenience Outlet  
 5 = Hinged Panels and Powered Convenience Outlet  
 6 = MERV 8 High Efficiency Filters  
 7 = MERV 8 High Efficiency Filters and Unpowered Convenience Outlet  
 8 = MERV 8 High Efficiency Filters and Powered Convenience Outlet  
 9 = MERV 8 High Efficiency Filters and Hinged Panels  
 A = MERV 8 High Efficiency Filters, Hinged Panels and Unpowered Convenience Outlet  
 B = MERV 8 High Efficiency Filters, Hinged Panels and Powered Convenience Outlet

### Air Intake / Exhaust Options

A = None  
 B = Temperature EconoMiSer®2 w/ Barometric Relief  
 F = Enthalpy EconoMiSer2 w/ Barometric Relief  
 U = Ultra Low Leak Temperature EconoMiSer2 w/ Barometric Relief  
 W = Ultra Low Leak Enthalpy EconoMiSer2 w/ Barometric Relief

### Base Unit Controls

3 = SystemVu™ Controls - Standard all units

### Design Revision

- = Factory Design Revision

### Voltage

1 = 575/3/60  
 5 = 208-230/3/60  
 6 = 460/3/60

# Model number nomenclature (cont)



## 50JC MODEL NUMBER NOMENCLATURE

Position:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Example:	5	0	J	C	-	V	0	6	A	2	A	5	-	3	A	0	A	0

### Unit Heat Type

50 - Electric/Electric Packaged  
Rooftop

### Model Series - WeatherExpert®

JC - Ultra High Efficiency

### Heat Options

- = No Heat  
A = Low Electric Heat  
B = Medium Electric Heat  
C = High Electric Heat

### Refrig. Systems Options

V = Variable Speed Cooling Capacity  
W = Variable Speed Cooling Capacity with  
Humidi-MiZer® System

### Cooling Tons

04 - 3 ton  
05 - 4 ton  
06 - 5 ton

### Sensor Options

A = None  
B = RA (Return Air) Smoke Detector  
C = SA (Supply Air) Smoke Detector  
D = RA + SA Smoke Detector  
E = CO<sub>2</sub>  
F = RA Smoke Detector and CO<sub>2</sub>  
G = SA Smoke Detector and CO<sub>2</sub>  
H = RA + SA Smoke Detector and CO<sub>2</sub>  
J = Condensate Overflow Switch  
K = Condensate Overflow Switch and RA Smoke Detector  
L = Condensate Overflow Switch and RA and SA Smoke Detectors  
M = Condensate Overflow Switch and SA Smoke Detector  
N = Condensate Overflow Switch and CO<sub>2</sub>  
P = Condensate Overflow Switch w/ CO<sub>2</sub> + RA Smoke Detector  
Q = Condensate Overflow Switch w/ CO<sub>2</sub> + SA Smoke Detector  
R = Condensate Overflow Switch w/ CO<sub>2</sub> + RA and SA Smk. Det.

### Vane Axial Fan - Indoor Fan Options

1 = Direct Drive EcoBlue™ - Standard Static  
2 = Direct Drive EcoBlue - Medium Static  
3 = Direct Drive EcoBlue - High Static

### Coil Options - Round Tube/Plate Fin Condenser Coil (Outdoor - Indoor - Hail Guard)

A = Al/Cu - Al/Cu  
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D = E-coat Al/Cu - E-coat Al/Cu  
E = Cu/Cu - Al/Cu  
F = Cu/Cu - Cu/Cu  
M = Al/Cu - Al/Cu — Louvered Hail Guard  
N = Precoat Al/Cu - Al/Cu — Louvered Hail Guard  
P = E-coat Al/Cu - Al/Cu — Louvered Hail Guard  
Q = E-coat Al/Cu - E-coat Al/Cu — Louvered Hail Guard  
R = Cu/Cu - Al/Cu — Louvered Hail Guard  
S = Cu/Cu - Cu/Cu — Louvered Hail Guard

### Factory Assigned

0 = Standard  
1 = LTL

### Electrical Options

A = None  
B = HACR Breaker  
C = Non-Fused Disconnect (NFD)  
D = Thru-The-Base (TTB) Connections  
E = HACR Circuit Breaker and TTB  
F = Non-Fused Disconnect and TTB  
N = Phase Monitor Protection  
P = Phase Monitor and HACR  
Q = Phase Monitor and NFD  
R = Phase Monitor and TTB  
S = Phase Monitor and HACR and TTB  
T = Phase Monitor and NFD and TTB

### Service Options

#### (Foil Face Insulation Standard)

0 = None  
1 = Unpowered Convenience Outlet  
2 = Powered Convenience Outlet  
3 = Hinged Access Panels  
4 = Hinged Access Panels and  
Unpowered Convenience Outlet  
5 = Hinged Panels and  
Powered Convenience Outlet  
6 = MERV 8 High Efficiency Filters  
7 = MERV 8 High Efficiency Filters and  
Unpowered Convenience Outlet  
8 = MERV 8 High Efficiency Filters and  
Powered Convenience Outlet  
9 = MERV 8 High Efficiency Filters and  
Hinged Panels  
A = MERV 8 High Efficiency Filters, Hinged  
Panels and Unpowered Convenience Outlet  
B = MERV 8 High Efficiency Filters, Hinged  
Panels and Powered Convenience Outlet

### Air Intake / Exhaust Options

A = None  
B = Temperature EconoMi\$er®2 w/ Barometric Relief  
F = Enthalpy EconoMi\$er2 w/ Barometric Relief  
U = Ultra Low Leak Temperature EconoMi\$er2 w/  
Barometric Relief  
W = Ultra Low Leak Enthalpy EconoMi\$er2 w/  
Barometric Relief

### Base Unit Controls

3 = SystemVu™ Controls - Standard all units

### Design Revision

- = Factory Design Revision

### Voltage

1 = 575/3/60  
5 = 208-230/3/60  
6 = 460/3/60

## 48JC AHRI RATINGS

48JC UNIT	COOLING STAGES	NOMINAL CAPACITY (TONS)	NET COOLING CAPACITY (MBH)	TOTAL POWER (kW)	SEER	EER
48JC**04	Variable Speed	3	35.0	2.5	20.0	14.0
48JC**05	Variable Speed	4	47.0	3.6	20.0	13.0
48JC**06	Variable Speed	5	58.0	4.5	19.0	13.0

### LEGEND

**AHRI** — Air-Conditioning, Heating and Refrigeration Institute

**EER** — Energy Efficiency Ratio

**SEER** — Seasonal Energy Efficiency Ratio

### NOTES:

1. Rated in accordance with AHRI Standards 210/240.

2. Rating are based on:

**Cooling Standard:** 80°F (27°C) db, 67°F (19°C) wb indoor air temperature and 95°F (35°C) db outdoor air temperature.

3. All 48JC units comply with ASHRAE 90.1-2016 (American Society of Heating, Refrigerating, and Air-Conditioning Engineers) and DOE-2018 (Department of Energy) Energy Standard for minimum SEER and EER requirements.

4. 48JC units comply with US Energy Policy Act (2005). To evaluate code compliance requirements, refer to state and local codes.



## 50JC AHRI RATINGS

50JC UNIT	COOLING STAGES	NOMINAL CAPACITY (TONS)	NET COOLING CAPACITY (MBH)	TOTAL POWER (kW)	SEER	EER
50JC**04	Variable Speed	3	35.0	2.5	20.0	14.0
50JC**05	Variable Speed	4	47.0	3.6	20.0	13.0
50JC**06	Variable Speed	5	58.0	4.5	19.0	13.0

### LEGEND

**AHRI** — Air-Conditioning, Heating and Refrigeration Institute

**EER** — Energy Efficiency Ratio

**SEER** — Seasonal Energy Efficiency Ratio

### NOTES:

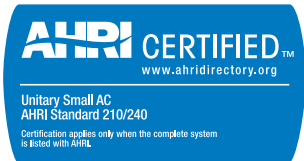
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2. Rating are based on:

**Cooling Standard:** 80°F (27°C) db, 67°F (19°C) wb indoor air temperature and 95°F (35°C) db outdoor air temperature.

3. All 50JC units comply with ASHRAE 90.1-2016 (American Society of Heating, Refrigerating, and Air-Conditioning Engineers) and DOE-2018 (Department of Energy) Energy Standard for minimum SEER and EER requirements.

4. 50JC units comply with US Energy Policy Act (2005). To evaluate code compliance requirements, refer to state and local codes.



# Capacity ratings (cont)



**SOUND RATINGS TABLE**

48/50JC UNIT	COOLING STAGES	OUTDOOR SOUND (dB) AT 60 Hz								
		A-WEIGHTED	63	125	250	500	1000	2000	4000	8000
V04	Variable Speed	75.4	81.8	81.8	77.0	72.6	69.9	64.6	59.3	55.6
V05	Variable Speed	79.0	85.6	84.7	80.5	76.0	72.4	68.0	62.8	59.3
V06	Variable Speed	79.0	85.6	84.7	80.5	76.0	72.4	68.0	62.8	59.3

**LEGEND**

**dB** — Decibel

**NOTES:**

- Outdoor sound data is measured in accordance with AHRI.
- Measurements are expressed in terms of sound power. Do not compare these values to sound pressure values because sound pressure depends on specific environmental factors which normally do not match individual applications. Sound power values are independent of the environment and therefore more accurate.
- A-weighted sound ratings filter out very high and very low frequencies, to better approximate the response of "average" human ear. A-weighted measurements for Carrier units are taken in accordance with AHRI.





**MINIMUM - MAXIMUM AIRFLOW RATINGS (CFM) — NATURAL GAS AND PROPANE**

UNIT	HEAT LEVEL	VOLTAGE	COOLING		AL HX HEATING		SS HX HEATING	
			MINIMUM AIRFLOW CFM	MAXIMUM AIRFLOW CFM	MINIMUM AIRFLOW CFM	MAXIMUM AIRFLOW CFM	MINIMUM AIRFLOW CFM	MAXIMUM AIRFLOW CFM
48JC**04	LOW	3 Phase	600	1500	910	2010	910	2010
	MED				960	1630	960	1630
	HIGH				N/A	N/A	N/A	N/A
48JC**05	LOW	3 Phase	800	2000	910	2010	910	2010
	MED				1250	2330	1250	2330
	HIGH				1390	2220	1390	2220
48JC**06	LOW	3 Phase	1000	2500	910	2510	910	2510
	MED				1250	2720	1250	2720
	HIGH				1390	2780	1390	2780

**MINIMUM - MAXIMUM AIRFLOW RATINGS (CFM) — COOLING UNITS AND ACCESSORY ELECTRIC HEAT**

UNIT	COOLING		ELECTRIC HEAT*	
	MINIMUM AIRFLOW CFM	MAXIMUM AIRFLOW CFM	MINIMUM AIRFLOW CFM	MAXIMUM AIRFLOW CFM
50JC**04	600	1500	900	1500
50JC**05	800	2000	1200	2000
50JC**06	1000	2500	1500	2500

\* Electric heat modules are available as both factory-installed options or field-installed accessories for 50JC units.

# Capacity ratings (cont)



**HEAT RATING TABLE — NATURAL GAS AND PROPANE**

48JC UNIT	GAS HEAT	AL/SS HEAT EXCHANGER		TEMPERATURE RISE (°F)	THERMAL EFFICIENCY (%)	AFUE EFFICIENCY (%)
		INPUT/OUTPUT STAGE 1 (MBH)	INPUT/OUTPUT STAGE 2 (MBH)			
04	LOW	50/40	67/54	25-55	81	N/A
	MED	82/65	110/88	50-85	80	N/A
	HIGH	—	—	—	—	—
05	LOW	50/40	67/54	25-55	81	N/A
	MED	82/65	110/88	35-65	80	N/A
	HIGH	120/96	150/120	50-80	80	N/A
06	LOW	50/40	67/54	20-55	81	N/A
	MED	82/65	110/88	30-65	80	N/A
	HIGH	120/96	150/120	40-80	80	N/A

## 48/50JC 3 TO 5 TON PHYSICAL DATA

48/50JC UNIT	48/50JC*W04	48/50JC*W04	48/50JC*W05	48/50JC*W05	48/50JC*W06	48/50JC*W06
<b>NOMINAL TONS</b>	3		4		5	
<b>BASE UNIT OPERATING WT (lb) 48JC/50JC*</b>	587/542		610/565		612/567	
<b>REFRIGERATION SYSTEM</b>						
<b>No. Circuits/No. Compressors/Type</b>	1 / 1 / Variable Speed Scroll		1 / 1 / Variable Speed Scroll		1 / 1 / Variable Speed Scroll	
<b>Puron® (R-410A) Charge A/B (lbs-oz)</b>	12-0	—	11-5	—	12-0	—
<b>Humidi-MiZer® Puron (R-410A) Charge A/B (lbs-oz)</b>	—	15-0	—	16-5	—	18-0
<b>Metering Device</b>	TXV	TXV	TXV	TXV	TXV	TXV
<b>Humidi-MiZer Metering Device</b>	—	TXV	—	TXV	—	TXV
<b>High-Pressure Trip/Reset (psig)</b>	630/505	630/505	630/505	630/505	630/505	630/505
<b>Low-Pressure Trip/Reset (psig)</b>	54/117	27/44	54/117	27/44	54/117	27/44
<b>EVAPORATOR COIL</b>						
<b>Material (Tube/Fin)</b>	Cu/Al	Cu/Al	Cu/Al	Cu/Al	Cu/Al	Cu/Al
<b>Coil Type</b>	<sup>3</sup> / <sub>8</sub> -in. RTPF	<sup>3</sup> / <sub>8</sub> -in. RTPF	<sup>3</sup> / <sub>8</sub> -in. RTPF	<sup>3</sup> / <sub>8</sub> -in. RTPF	<sup>3</sup> / <sub>8</sub> -in. RTPF	<sup>3</sup> / <sub>8</sub> -in. RTPF
<b>Rows/FPI</b>	3/15	3/15	4/15	4/15	4/15	4/15
<b>Total Face Area (ft<sup>2</sup>)</b>	7.3	7.3	7.3	7.3	7.3	7.3
<b>Condensate Drain Connection Size</b>	<sup>3</sup> / <sub>4</sub> -in.	<sup>3</sup> / <sub>4</sub> -in.	<sup>3</sup> / <sub>4</sub> -in.	<sup>3</sup> / <sub>4</sub> -in.	<sup>3</sup> / <sub>4</sub> -in.	<sup>3</sup> / <sub>4</sub> -in.
<b>CONDENSER COIL</b>						
<b>Material</b>	Cu/Al	Cu/Al	Cu/Al	Cu/Al	Cu/Al	Cu/Al
<b>Coil Type</b>	<sup>5</sup> / <sub>16</sub> -in. RTPF	<sup>5</sup> / <sub>16</sub> -in. RTPF	<sup>5</sup> / <sub>16</sub> -in. RTPF	<sup>5</sup> / <sub>16</sub> -in. RTPF	<sup>5</sup> / <sub>16</sub> -in. RTPF	<sup>5</sup> / <sub>16</sub> -in. RTPF
<b>Rows/FPI</b>	2/18	2/18	2/18	2/18	2/18	2/18
<b>Total Face Area (ft<sup>2</sup>)</b>	21.3	21.3	21.3	21.3	21.3	21.3
<b>HUMIDI-MIZER COIL</b>						
<b>Material</b>	—	Cu/Al	—	Cu/Al	—	Cu/Al
<b>Coil Type</b>	—	<sup>3</sup> / <sub>8</sub> -in. RTPF	—	<sup>3</sup> / <sub>8</sub> -in. RTPF	—	<sup>3</sup> / <sub>8</sub> -in. RTPF
<b>Rows/FPI</b>	—	1/17	—	2/17	—	2/17
<b>Total Face Area (ft<sup>2</sup>)</b>	—	5.5	—	5.5	—	5.5
<b>EVAPORATOR FAN AND MOTOR</b>						
<b>Standard Static 3 Phase</b>						
<b>Motor Qty/Drive Type</b>	1/Direct	1/Direct	1/Direct	1/Direct	1/Direct	1/Direct
<b>Max Cont BHP</b>	0.44	0.44	0.72	0.72	1.06	1.06
<b>RPM Range</b>	189-1890	189-1890	190-1900	190-1900	215-2150	215-2150
<b>Fan Qty/Type</b>	1/Vane Axial	1/Vane Axial	1/Vane Axial	1/Vane Axial	1/Vane Axial	1/Vane Axial
<b>Fan Diameter (in.)</b>	16.6	16.6	16.6	16.6	16.6	16.6
<b>Medium Static 3 Phase</b>						
<b>Motor Qty/Drive Type</b>	1/Direct	1/Direct	1/Direct	1/Direct	1/Direct	1/Direct
<b>Max Cont BHP</b>	0.71	0.71	1.06	1.06	1.44	1.44
<b>RPM Range</b>	219-2190	219-2190	217-2170	217-2170	239-2390	239-2390
<b>Fan Qty/Type</b>	1/Vane Axial	1/Vane Axial	1/Vane Axial	1/Vane Axial	1/Vane Axial	1/Vane Axial
<b>Fan Diameter (in.)</b>	16.6	16.6	16.6	16.6	16.6	16.6
<b>High Static 3 Phase</b>						
<b>Motor Qty/Drive Type</b>	1/Direct	1/Direct	1/Direct	1/Direct	1/Direct	1/Direct
<b>Max Cont BHP</b>	1.07	1.07	1.96	1.96	2.43	2.43
<b>RPM Range</b>	249-2490	249-2490	266-2660	266-2660	284-2836	284-2836
<b>Fan Qty/Type</b>	1/Vane Axial	1/Vane Axial	1/Vane Axial	1/Vane Axial	1/Vane Axial	1/Vane Axial
<b>Fan Diameter (in.)</b>	16.6	16.6	16.6	16.6	16.6	16.6
<b>CONDENSER FAN AND MOTOR</b>						
<b>Qty / Motor Drive Type</b>	1 / Direct	1 / Direct	1 / Direct	1 / Direct	1 / Direct	1 / Direct
<b>Motor HP/RPM</b>	<sup>1</sup> / <sub>3</sub> / 160 - 1100	<sup>1</sup> / <sub>3</sub> / 160 - 1100	<sup>1</sup> / <sub>3</sub> / 160 - 1100	<sup>1</sup> / <sub>3</sub> / 160 - 1100	<sup>1</sup> / <sub>3</sub> / 160 - 1100	<sup>1</sup> / <sub>3</sub> / 160 - 1100
<b>Fan Diameter (in.)</b>	23	23	23	23	23	23
<b>FILTERS</b>						
<b>RA Filter Qty / Size (in.)</b>	4 / 16x16x2	4 / 16x16x2	4 / 16x16x2	4 / 16x16x2	4 / 16x16x2	4 / 16x16x2
<b>OA Inlet Screen Qty / Size (in.)</b>	1 / 20x24x1	1 / 20x24x1	1 / 20x24x1	1 / 20x24x1	1 / 20x24x1	1 / 20x24x1

### LEGEND

**BHP** — Break Horsepower  
**FPI** — Fins Per Inch  
**OA** — Outdoor Air  
**RA** — Return Air

\* Base unit operating weight does not include weight of options.

## 48JC 3 TO 6 TON GAS HEAT DATA

48JC UNIT	48JC**04	48JC**05	48JC**06
<b>GAS CONNECTION</b>			
No. of Gas Valves	1	1	1
Natural Gas Supply Line Pressure (in. wg)/(psig)	4-13 / 0.18-0.47	4-13 / 0.18-0.47	4-13 / 0.18-0.47
Liquid Propane Supply Line Pressure (in. wg)/(psig)	11-13 / 0.40-0.47	11-13 / 0.40-0.47	11-13 / 0.40-0.47
<b>HEAT ANTICIPATOR SETTING (AMPS)</b>			
First Stage	0.14	0.14	0.14
Second Stage	0.14	0.14	0.14
<b>NATURAL GAS HEAT</b>			
<b>LOW</b>			
No. of Stages / No. of Burners (total)	2 / 2	2 / 2	2 / 2
Connection Size	1/2-in. NPT	1/2-in. NPT	1/2-in. NPT
Rollout Switch Opens / Closes (°F)	195 / 115	195 / 115	195 / 115
Temperature Rise (°F)	25-55	25-55	20-55
<b>MEDIUM</b>			
No. of Stages / No. of Burners (total)	2 / 3	2 / 3	2 / 3
Connection Size	1/2-in. NPT	1/2-in. NPT	1/2-in. NPT
Rollout Switch Opens / Closes (°F)	195 / 115	195 / 115	195 / 115
Temperature Rise (°F)	50-85	35-65	30-65
<b>HIGH</b>			
No. of Stages / No. of Burners (total)	—	2 / 3	2 / 3
Connection Size	—	1/2-in. NPT	1/2-in. NPT
Rollout Switch Opens / Closes (°F)	—	195 / 115	195 / 115
Temperature Rise (°F)	—	50-80	40-80
<b>LIQUID PROPANE HEAT</b>			
<b>LOW</b>			
No. of Stages / No. of Burners (total)	2 / 2	2 / 2	2 / 2
Connection Size	1/2-in. NPT	1/2-in. NPT	1/2-in. NPT
Rollout Switch Opens / Closes (°F)	195 / 115	195 / 115	195 / 115
Temperature Rise (°F)	25-55	25-55	20-55
<b>MEDIUM</b>			
No. of Stages / No. of Burners (total)	2 / 3	2 / 3	2 / 3
Connection Size	1/2-in. NPT	1/2-in. NPT	1/2-in. NPT
Rollout Switch Opens / Closes (°F)	195 / 115	195 / 115	195 / 115
Temperature Rise (°F)	50-85	35-65	30-65
<b>HIGH</b>			
No. of Stages / No. of Burners (total)	—	2 / 3	2 / 3
Connection Size	—	1/2-in. NPT	1/2-in. NPT
Rollout Switch Opens / Closes (°F)	—	195 / 115	195 / 115
Temperature Rise (°F)	—	50-80	40-80

# Options and accessories



ITEM	OPTION*	ACCESSORY†
<b>GAS HEAT (48JC units only)</b>		
Low, Medium or High Gas Heat — Aluminized Heat Exchanger	X	
Low, Medium or High Gas Heat — Stainless Steel Heat Exchanger	X	
Propane Conversion Kit		X
High Altitude Conversion Kit		X
Flue Discharge Deflector		X
Flue Shield		X
<b>ELECTRIC HEAT (50JC units only)</b>		
Electric Resistance Heaters	X	X
Single Point Kits		X
<b>CABINET</b>		
Thru-the-Base electrical or gas-line connections	X	X
Hinged Access Panels	X	
<b>COIL OPTIONS</b>		
Cu/Cu indoor and/or outdoor coils	X	
Pre-coated outdoor coils <sup>1</sup>	X	
Premium, E-coated outdoor coils	X	
<b>HUMIDITY CONTROL</b>		
Humidi-MiZer® Adaptive Dehumidification System	X	
<b>CONDENSER PROTECTION</b>		
Condenser coil hail guard (louvered design)	X	X
<b>CONTROLS</b>		
Thermostats, temperature sensors, and subbases		X
Smoke detector (supply and/or return air)	X	
Horn Strobe Annunciator <sup>1</sup>		X
Phase Monitor		X
Condensate Overflow switch	X	X
<b>FILTERS</b>		
MERV-8 Return Air Filters	X	

ITEM	OPTION*	ACCESSORY†
<b>ECONOMIZERS</b>		
EconoMiSer2 for DDC controls (Standard and Ultra Low Leak air damper models) <sup>3</sup>	X	X
Barometric relief <sup>4</sup>	X	X
Power exhaust - prop design		X
<b>ECONOMIZER SENSORS AND IAQ DEVICES</b>		
Single dry bulb temperature sensors <sup>5</sup>	X	X
Differential dry bulb temperature sensors <sup>5</sup>		X
Single enthalpy sensors <sup>5</sup>	X	X
Differential enthalpy sensors <sup>5</sup>		X
CO <sub>2</sub> sensor (wall, duct, or unit mounted) <sup>6</sup>	X	X
<b>INDOOR MOTOR AND DRIVE</b>		
Multiple motor and drive packages	X	
<b>POWER OPTIONS</b>		
Convenience outlet (powered)	X	
Convenience outlet (unpowered)	X	
HACR circuit breaker <sup>7</sup>	X	
Non-fused disconnect <sup>8</sup>	X	
<b>ROOF CURBS</b>		
Roof curb 14-in. (356 mm)		X
Roof curb 24-in. (610 mm)		X

\* Factory-installed option.

† Field-installed accessory.

**NOTES:**

- Requires a field-supplied 24V transformer for each application. See price pages for details.
- FDD (Fault Detection and Diagnostic) capability per California Title 24 section 120.2.
- Models with SystemVu controls comply with California Title 24 Fault Detection and Diagnostic (FDD).
- Included with economizer.
- Sensors used to optimize economizer performance.
- See application data for assistance.
- HACR circuit breaker cannot be used on 04-06 sizes when unit FLA electrical rating exceeds:  
208/230/3/60 = 100 amps (FLA)  
460/3/60 = 90 amps (FLA)  
Carrier RTUBuilder automatically selects the amps limitations.
- Non-fused disconnect switch cannot be used when unit electrical rating exceeds:  
Without factory-installed electric heat:  
208-230/3/60 = 80 amps (FLA).  
480/3/60 and 575/3/60 = 80 amps (FLA).  
With factory-installed electric heat:  
208-230/3/60 = 100 amps (FLA).  
480/3/60 and 575/3/60 = 80 amps (FLA).  
Carrier RTUBuilder automatically selects the amp limitations.

## Factory-installed options

### Economizer (dry-bulb or enthalpy)

Economizers save money. They bring in fresh, outside air for ventilation; and provide cool, outside air to cool your building. This is the preferred method of low-ambient cooling. When coupled to CO<sub>2</sub> sensors, economizers can provide even more savings by coupling the ventilation air to only that amount required.

Economizers are available, installed and tested by the factory, with either enthalpy or dry-bulb temperature inputs. Additional sensors are available as accessories to optimize the economizers. Economizers include a powered exhaust system to help equalize building pressures.

Economizers include gravity controlled barometric relief that helps equalize building pressure and ambient air pressures. This can be a cost effective solution to prevent building pressurization. Economizers are available in Ultra Low Leak and standard low leak versions. Economizers can be factory-installed or easily field-installed.

### Unit mounted CO<sub>2</sub> sensor

The CO<sub>2</sub> sensor works with the economizer to intake only the correct amount of outside air for ventilation. As occupants fill your building, the CO<sub>2</sub> sensor detects their presence through increasing CO<sub>2</sub> levels, and opens the economizer appropriately. When the occupants leave, the CO<sub>2</sub> levels decrease, and the sensor appropriately closes the economizer. This intelligent control of the ventilation air, called demand controlled ventilation (DCV) reduces the overall load on the rooftop, saving money. Also available as a field-installed accessory.

### Smoke detector (supply and/or return air)

Trust the experts. Smoke detectors make your application safer and your job easier. Carrier smoke detectors immediately shut down the rooftop unit when smoke is detected. They are available, installed by the factory, for supply air, return air, or both.

### Optional Humidi-MiZer® adaptive dehumidification system

Carrier's Humidi-MiZer adaptive dehumidification system is an all-inclusive factory-installed option that can be ordered with any WeatherMaster® 48/50JC04-06 rooftop unit.

This system expands the envelope of operation of Carrier's WeatherMaker rooftop products to provide unprecedented flexibility to meet year round comfort conditions.

The Humidi-MiZer adaptive dehumidification system has a unique dual operational mode setting. The Humidi-MiZer system provides greater dehumidification of the occupied space by two modes of dehumidification operations in addition to its normal design cooling mode.

The WeatherMaster 48/50JC04-06 rooftop coupled with the Humidi-MiZer system is capable of operating in normal design cooling mode, sub-cooling mode, and hot gas reheat mode. Normal design cooling mode is when the unit will operate under its normal sequence of operation by cycling compressors to maintain comfort conditions.

Sub-cooling mode will operate to satisfy part load type conditions when the space requires combined sensible and a higher proportion of latent load control. Hot Gas Reheat mode will operate when outdoor temperatures diminish and the need for latent capacity is required for sole humidity control. Hot Gas Reheat mode will provide neutral air for maximum dehumidification operation.

## Thru-the-base connection

Thru-the-base connections, available as a factory option, are necessary to ensure proper connection and seal when routing wire and piping through the rooftop's basepan and curb. These couplings eliminate roof penetration and should be considered for gas lines, main power lines, as well as control power.

### Hinged access panels

Allows access to unit's major components with specifically designed hinged access panels. Panels are filter, control box access indoor fan motor access.

### Cu/Cu (indoor) coils

Copper fins and copper tubes are mechanically bonded to copper tubes and copper tube sheets. A polymer strip prevents coil assembly from contacting the sheet metal coil pan to minimize potential for galvanic corrosion between coil and pan.

### E-coated (outdoor and indoor) coils

A flexible epoxy polymer coating uniformly applied to all coil surface areas without material bridging between fins. Coating process shall ensure complete coil encapsulation of tubes, fins and headers.

### Pre-coated outdoor coils

A durable epoxy-phenolic coating to provide protection in mildly corrosive coastal environments. The coating minimizes galvanic action between dissimilar metals. Coating is applied to the aluminum fin stock prior to the fin stamping process to create an inert barrier between the aluminum fin and copper tube.

### Condenser coil hail guard

Sleek, louvered panels protect the condenser coil from hail damage, foreign objects, and incidental contact.

### Single enthalpy sensor

Prevents the wheel from rotating if the outside air conditions are acceptable for free cooling. Both exhaust and supply blowers will remain on.

### Stainless steel heat exchanger (48JC units only)

The stainless steel heat exchanger option provides the tubular heat exchanger be made out of a minimum 20 gage type 409 stainless steel for applications where the mixed air to the heat exchanger is expected to drop below 45°F (7°C). Stainless steel may be specified on applications where the presence of airborne contaminants require its use (applications such as paper mills) or in area with very high outdoor humidity that may result in severe condensation in the heat exchanger during cooling operation.

### Convenience outlet (powered or un-powered)

Reduce service and/or installation costs by including a convenience outlet in your specification. Carrier will install this service feature at our factory. Provides a convenient, 15 amp, 115v GFCI receptacle with "Wet in Use" cover. The "powered" option allows the installer to power the outlet from the line side of the disconnect or load side as required by code. The "unpowered" option is to be powered from a separate 115/120v power source.

The unpowered convenience outlet is available as a 15 amp factory-installed option or a 20 amp field-installed accessory.

### **HACR Breaker**

These manual reset devices provide overload and short circuit protection for the unit. Factory wired and mounted with the units with access cover to provide protection from the environment.

### **Non-fused disconnect**

This OSHA-compliant, factory-installed, safety switch allows a service technician to locally secure power to the rooftop. When selecting a factory-installed non-fused disconnect, note they are sized for the unit as ordered from the factory. The sizing of these do not accommodate field-installed items such as power exhaust devices, etc. If field installing electric heat with factory-installed non-fused disconnect switch, a single point kit may or may not be required.

### **SystemVu™ controller**

Carrier's SystemVu controller is an optional factory-installed and tested controller.

This controller takes on a whole new approach to provide an intuitive, intelligent controller that not only monitors and controls the unit, but also provides linkage to multiple building automation systems.

Each SystemVu controller makes it easy to set up, service, troubleshoot, gain historical data, generate reports and provide comfort only Carrier is noted for.

#### **Key features include:**

- Easy to read back lit four line text screen for superior visibility.
- Quick operational condition LEDs of: Run, Alert, and Fault.
- Simple navigation with large keypad buttons of: Navigation arrows, Test, Back, Enter and Menu.
- Capable of being controlled with a conventional thermostat, space sensor or build automation system.
- Service capabilities include:
  - Auto run test
  - Manual run test
  - Component run hours and starts
  - Commissioning reports
  - Data logging

- Full range of diagnosis:
  - Read refrigerant pressures without the need of gages
  - Sensor faults
  - Compressor reverse rotation
  - Economizer diagnostics that meet California Title 24 requirements
- Quick data transfer via USB port:
  - Unit configuration uploading/downloading
  - Data logging
  - Software upgrades
- Built in capacity for:
  - i-Vu® open systems
  - BACnet systems
  - CCN systems
- Configuration and alarm point capability:
  - Contain over 100 alarm codes
  - Contain over 260 status, troubleshooting, diagnostic and maintenance points
  - Contain over 270 control configuration setpoints

### **Condensate overflow switch**

This sensor and related controller monitors the condensate level in the drain pan and shuts down compression operation when overflow conditions occur. It includes:

- Indicator light – solid red (more than 10 seconds on water contact – compressors disabled), blinking red (sensor disconnected)
- 10 second delay to break – eliminates nuisance trips from splashing or waves in pan (sensor needs 10 seconds of constant water contact before tripping)
- Disables the compressor(s) operation when condensate plug is detected, but still allows fans to run for economizer.

### **MERV-8 return air filters**

This factory option upgrades the return air filters from standard unit filters to high efficiency MERV-8 filters. Non-woven MERV-8 filter media with high strength, moisture-resistant frame. Filter media is securely fastened inside the filter frame on all four sides.

### **Electric Heaters**

Carrier offers a full-line of field-installed accessory heaters. The heaters are very easy to use, install and are all pre-engineered and certified. Electric heaters are available as either factory-installed options or field-installed accessories.

## Field-installed accessories

### Filter maintenance indicator

When the optional factory-installed filter maintenance indicator is used, a factory-installed differential pressure switch measures pressure drop across the outside air filter and activates a field-supplied dry contact indicator when the pressure differential exceeds the adjustable switch setpoint.

### Condenser coil hail guard

Sleek, louvered panels protect the condenser coil from hail damage, foreign objects, and incidental contact. This can be purchased as a factory-installed option or as a field-installed accessory.

### Differential enthalpy sensor

The differential enthalpy sensor is comprised of an outdoor and return air enthalpy sensors to provide differential enthalpy control. The sensor allows the unit to determine if outside air is suitable for free cooling.

### Wall or duct mounted CO<sub>2</sub> sensor

The IAQ sensor shall be available in duct or wall mount. The sensor provides demand ventilation indoor air quality (IAQ) control.

### Propane conversion kit (48JC units only)

Convert your gas heat rooftop from standard natural gas operation to Propane using this field-installed kit.

### High altitude conversion kit (48JC units only)

High altitudes have less oxygen, which affects the fuel/air mixture in heat exchangers. In order to maintain a proper fuel/air mixture, heat exchangers operating in altitudes above 2000 ft (610 m) require different orifices. To select the correct burner orifices or determine the heat capacity for a high altitude application, use either the selection software, or the unit's service manual. High altitudes have less oxygen, which means heat exchangers need less fuel.

The new gas orifices in this field-installed kit make the necessary adjustment for high altitude applications. They restore the optimal fuel to air mixture and maintain healthy combustion on altitudes above 2000 ft (610 m).

NOTE: Typical natural gas heating value ranges from 975 to 1050 Btu/ft<sup>3</sup> at sea level nationally. The heating value goes down approximately 1.7% per every thousand feet elevation. Standard factory orifices can typically be used up to 2000 ft (610 m) elevation without any operational issues.

### Flue discharge deflector (48JC units only)

The flue discharge deflector is a useful accessory when flue gas recirculation is a concern. By venting the flue discharge upwards, the deflector minimizes the chance for a neighboring unit to intake the flue exhaust.

### Roof curb (14-in./356 mm or 24-in./610 mm)

Full perimeter roof curb with exhaust capability provides separate air streams for energy recovery from the exhaust air without supply air contamination.

### Filter status indicator accessory

Monitors static pressure across supply and exhaust filters and provides indication when filters become clogged.

### Power exhaust

Superior internal building pressure control. This field-installed accessory may eliminate the need for costly, external pressure control fans.

### Phase monitor protection

The Phase Monitor Control will monitor the sequence of three phase electrical system to provide a phase reversal protection; and monitor the three phase voltage inputs to provide a phase loss protection for the three phase device. It will work on either a Delta or Wye power connection.





### OPTIONS AND ACCESSORY WEIGHTS

OPTION / ACCESSORY NAME	48/50JC UNIT WEIGHT					
	04		05		06	
	lb	kg	lb	kg	lb	kg
Humidi-MiZer® System	15	7	15	7	24	11
Power Exhaust - Vertical	51	23	51	23	51	23
Power Exhaust - Horizontal	39	18	39	18	39	18
EconoMi\$er® 2	35	16	35	16	35	16
Medium Gas Heat (48JC units only)	9	4	9	4	9	4
High Gas Heat (48JC units only)	—	—	63	29	63	29
Hail Guard (louvered)	13	6	13	6	17	8
Cu/Cu Condenser Coil	37	17	74	34	90	41
Cu/Cu Condenser and Evaporator Coils	145	66	160	73	160	73
Roof Curb (14-in. curb)	95	43	95	43	95	43
Roof Curb (24-in. curb)	150	68	150	68	150	68
CO <sub>2</sub> Sensor	2	1	2	1	2	1
Flue Discharge Deflector	7	3	7	3	7	3
Optional Indoor Motor/Drive	3	1	5	2	5	2
Return Air Smoke Detector	7	3	7	3	7	3
Supply Air Smoke Detector	7	3	7	3	7	3
Fan Filter Switch	2	1	2	1	2	1
Non-Fused Disconnect	15	7	15	7	15	7
Powered Convenience Outlet	36	16	36	16	36	16
Unpowered Convenience Outlet	4	2	4	2	4	2
Enthalpy Sensor	2	1	2	1	2	1
Differential Enthalpy Sensor	3	1	3	1	3	1

**LEGEND**

— Not Available

NOTE: Where multiple variations are available, the heaviest combination is listed.

### 48JC\*\*04-06 BASE UNIT DIMENSIONS

**NOTES:**

1. DIMENSIONS ARE IN INCHES. DIMENSIONS IN [ ] ARE IN MILLIMETERS.
2. CENTER OF GRAVITY
3. DIRECTION OF AIR FLOW
4. ALL VIEW DRAWN USING 3RD ANGLE

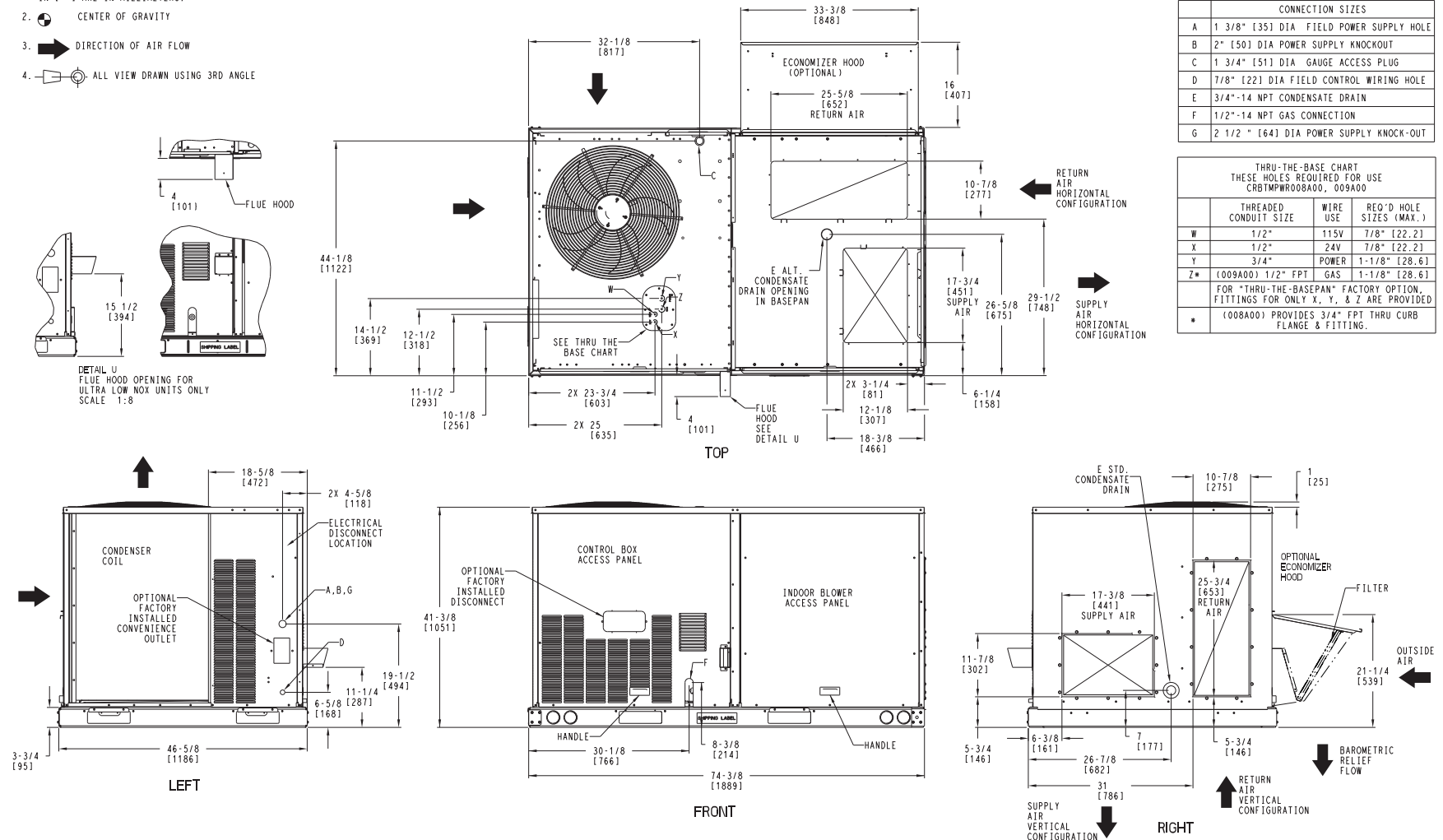


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CONNECTION SIZES	
A	1 3/8" [35] DIA FIELD POWER SUPPLY HOLE
B	2" [50] DIA POWER SUPPLY KNOCKOUT
C	1 3/4" [51] DIA GAUGE ACCESS PLUG
D	7/8" [22] DIA FIELD CONTROL WIRING HOLE
E	3/4"-14 NPT CONDENSATE DRAIN
F	1/2"-14 NPT GAS CONNECTION
G	2 1/2" [64] DIA POWER SUPPLY KNOCK-OUT

THRU-THE-BASE CHART THESE HOLES REQUIRED FOR USE CRBTPWRO08A00, 009A00		
THREADED CONDUIT SIZE	WIRE USE	REQ'D HOLE SIZES (MAX.)
W	1/2"	115V 7/8" [22.2]
X	1/2"	24V 7/8" [22.2]
Y	3/4"	POWER 1-1/8" [28.6]
Z*	(009A00) 1/2" FPT	GAS 1-1/8" [28.6]
FOR "THRU-THE-BASEPAN" FACTORY OPTION, FITTINGS FOR ONLY X, Y, & Z ARE PROVIDED		
* (008A00) PROVIDES 3/4" FPT THRU CURB FLANGE & FITTING.		



ITC CLASSIFICATION U.S. ECCN:NSR	SHEET 1 OF 3	DATE 7/29/20	SUPERCEDES 2/17/20	48JC 04-06 SINGLE PACKAGE ELECTRICAL COOLING WITH GAS HEAT	48TC004038	REV A
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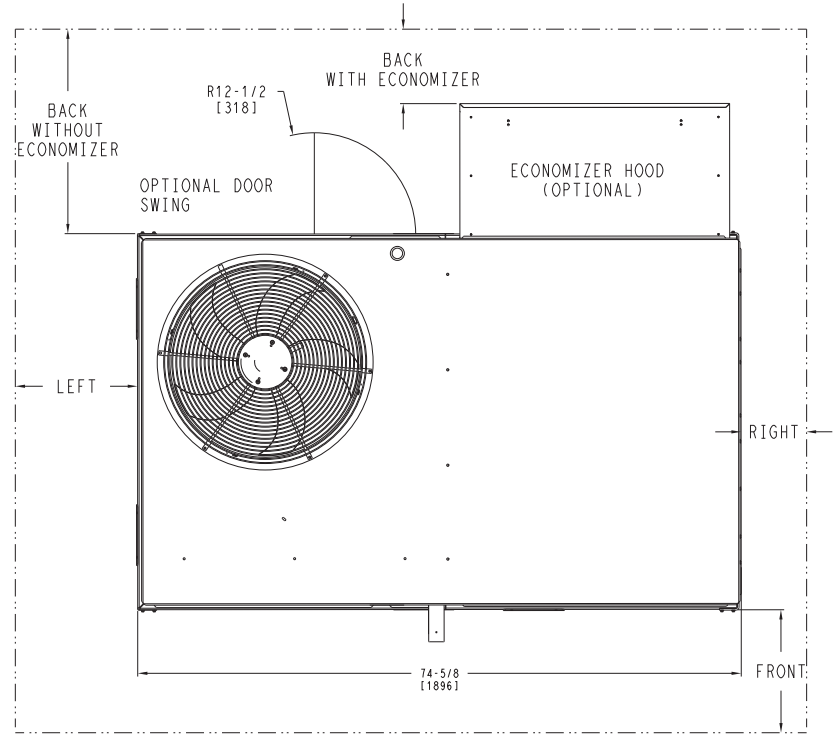
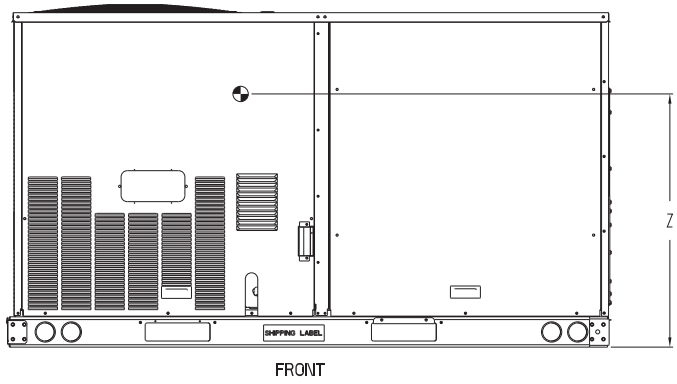
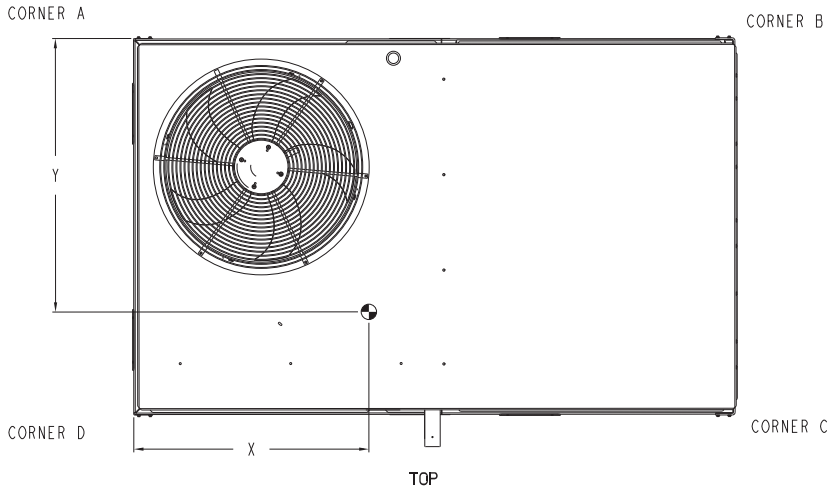


### 48JC\*\*04-06 BASE UNIT DIMENSIONS (cont)

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UNIT	STD. UNIT WEIGHT *		CORNER WEIGHT (A)		CORNER WEIGHT (B)		CORNER WEIGHT (C)		CORNER WEIGHT (D)		C.G.			HEIGHT		
	LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	X	Y	Z			
48JC**04	587	266	137	62	127	58	155	70	168	76	35 3/4	[908]	25 3/4	[654]	19 1/2	[495]
48JC**05	610	277	143	65	133	60	161	73	173	78	35 7/8	[911]	25 5/8	[651]	19 3/8	[492]
48JC**06	612	278	145	66	133	60	160	73	174	79	35 5/8	[905]	25 1/2	[648]	19 3/8	[492]

\* STANDARD UNIT WEIGHT IS WITH LOW GAS HEAT (NOT ULTRA LOW NOX) AND WITHOUT PACKAGING. FOR OTHER OPTIONS AND ACCESSORIES, REFER TO THE PRODUCT DATA CATALOG.



NOTES:  
1. FOR ALL MINIMUM CLEARANCES LOCAL CODES OR JURISDICTIONS MAY PREVAIL.

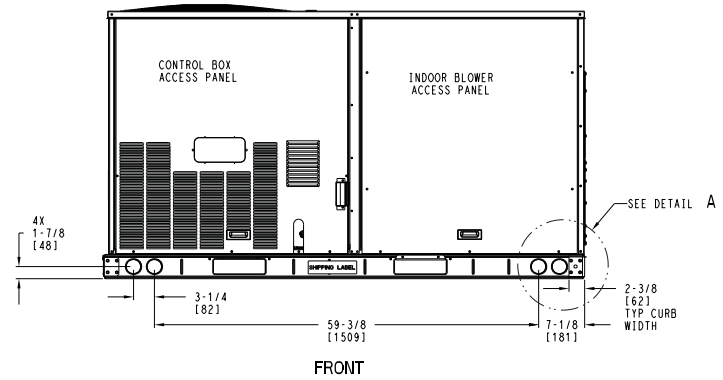
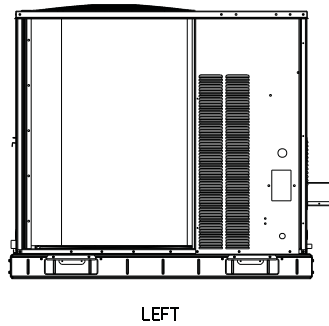
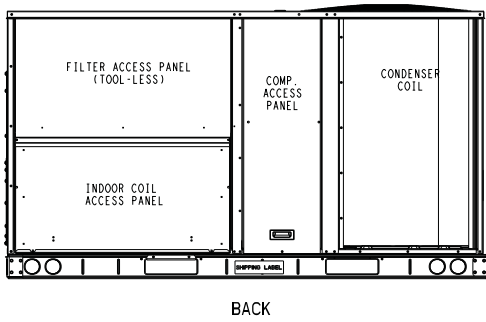
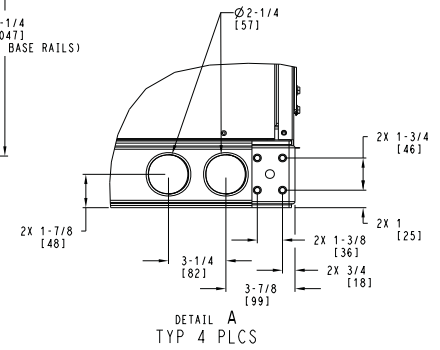
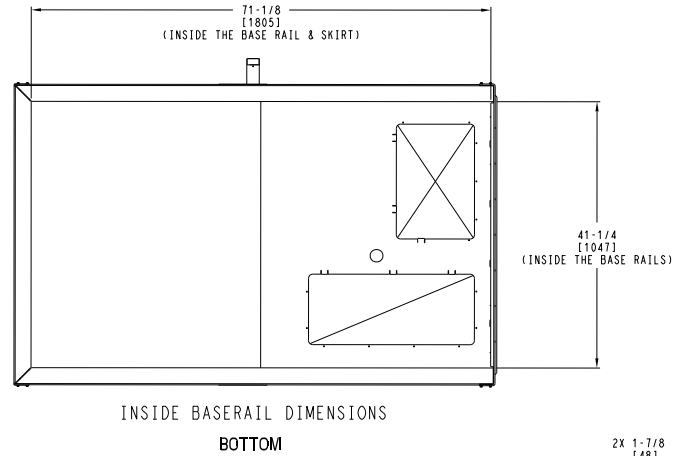
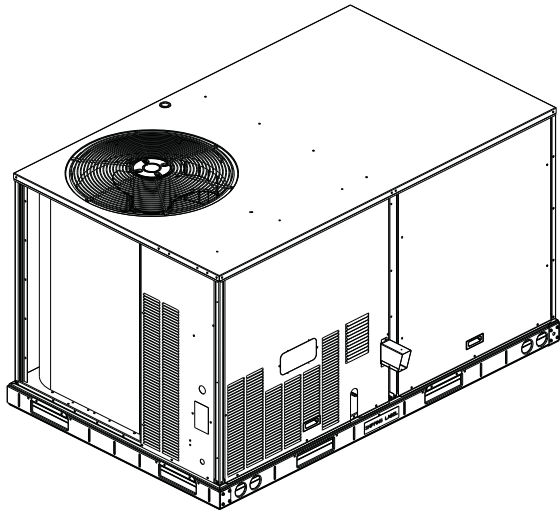
SURFACE	CLEARANCE		OPERATING CLEARANCE
	SERVICE WITH: CONDUCTIVE BARRIER	SERVICE WITH: NONCONDUCTIVE BARRIER	
FRONT	48 [1219mm]	36 [914mm]	18 [457mm]
LEFT	48 [1219mm]	42 [1067mm]	18 [457mm]
BACK W/O HOOD	48 [1219mm]	42 [1067mm]	18 [457mm]
BACK W/HOOD	36 [914mm]	36 [914mm]	18 [457mm]
RIGHT	36 [914mm]	36 [914mm]	18 [457mm]
TOP	72 [1829mm]	72 [1829mm]	72 [1829mm]

ITC CLASSIFICATION U.S. ECCN: NSR	SHEET 2 OF 3	DATE 7/29/20	SUPERCEDES 2/17/20	48JC 04-06 SINGLE PACKAGE ELECTRICAL COOLING WITH GAS HEAT	48TC004038	REV A
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48JC\*\*04-06 BASE UNIT DIMENSIONS (cont)

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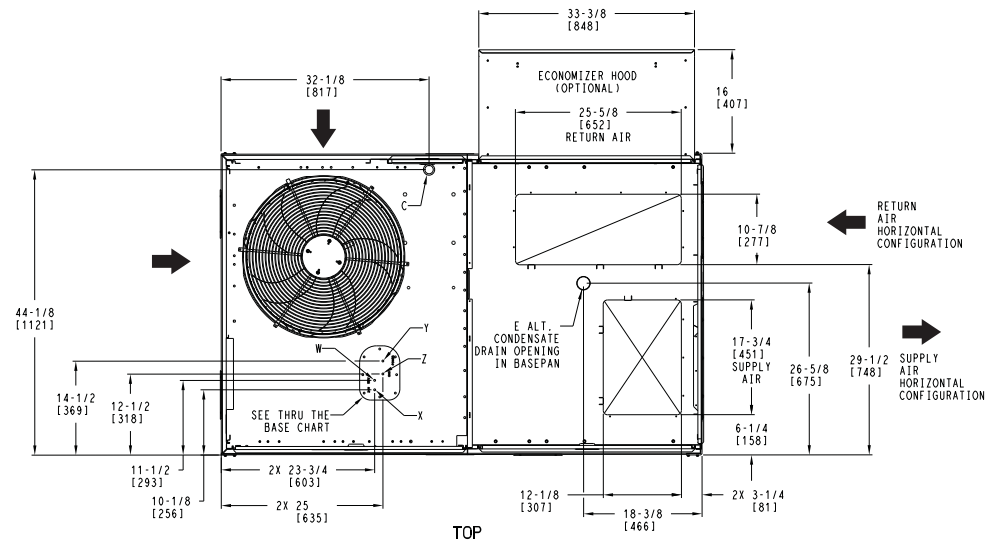
ITC CLASSIFICATION U.S. ECCN:NSR	SHEET 3 OF 3	DATE 7/29/20	SUPERCEDES 2/17/20	48JC 04-06 SINGLE PACKAGE ELECTRICAL COOLING WITH GAS HEAT	48TC004038	REV A
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# 50JC\*\*04-06 BASE UNIT DIMENSIONS

- NOTES:
1. DIMENSIONS ARE IN INCHES, DIMENSIONS IN [ ] ARE IN MILLIMETERS.
  2. CENTER OF GRAVITY
  3. DIRECTION OF AIR FLOW
  4. ALL VIEW DRAWN USING 3RD ANGLE

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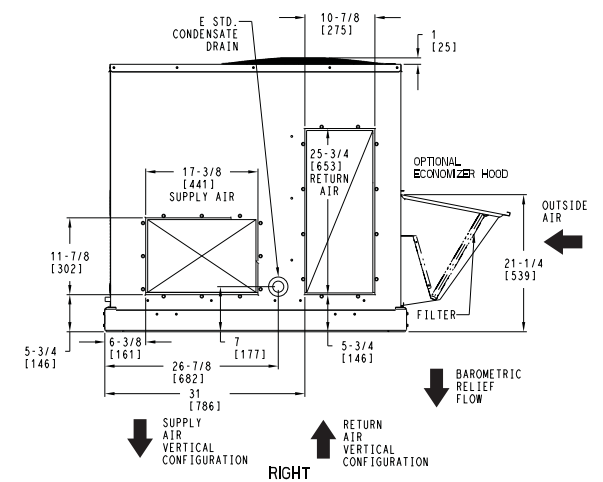
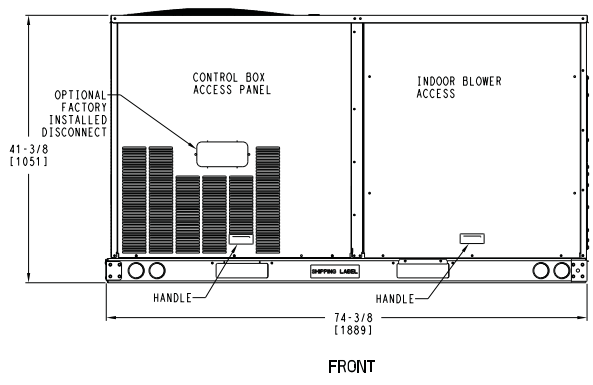
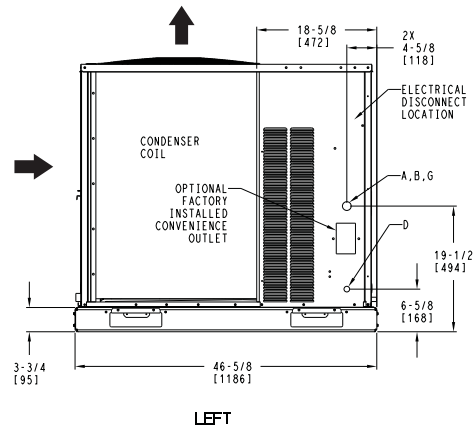
CONNECTION SIZES	
A	1 3/8" [35] DIA. FIELD POWER SUPPLY HOLE
B	2" [51] DIA. POWER SUPPLY KNOCKOUT
C	1 3/4" [44] DIA. GAUGE ACCESS PLUG
D	7/8" [22] DIA. FIELD CONTROL WIRING HOLE
E	3/4"-14 NPT CONDENSATE DRAIN
G	2 1/2" [64] DIA. POWER SUPPLY KNOCK-OUT

THRU-THE-BASE CHART THESE HOLES REQUIRED FOR USE CRBTMPWR008A00, 009A00			
	THREADED CONDUIT SIZE	WIRE USE	REQ'D HOLE SIZES (MAX.)
W	1/2"	115V	7/8" [22.2]
X	1/2"	24V	7/8" [22.2]
Y *	3/4"	POWER	1 1/8" [28.6]
Z **	(009A00) 1/2" FPT	GAS	1 1/8" [28.6]

FOR "THRU-THE-BASEPAN" FACTORY OPTION, FITTINGS FOR ONLY X, Y, & Z ARE PROVIDED

\* SELECT EITHER 3/4" OR 1/2" FOR POWER, DEPENDING ON WIRE SIZE

\*\* (008A00) PROVIDES 3/4" FPT THRU CURB FLANGE & FITTING.



ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES	50JC 04-06 SINGLE PACKAGE ELECTRICAL COOLING WITH ELECTRIC HEAT	48TC004039	REV
U.S. ECCN: NSR	1 OF 3	2/17/20	-			



### 50JC\*\*04-06 BASE UNIT DIMENSIONS (cont)

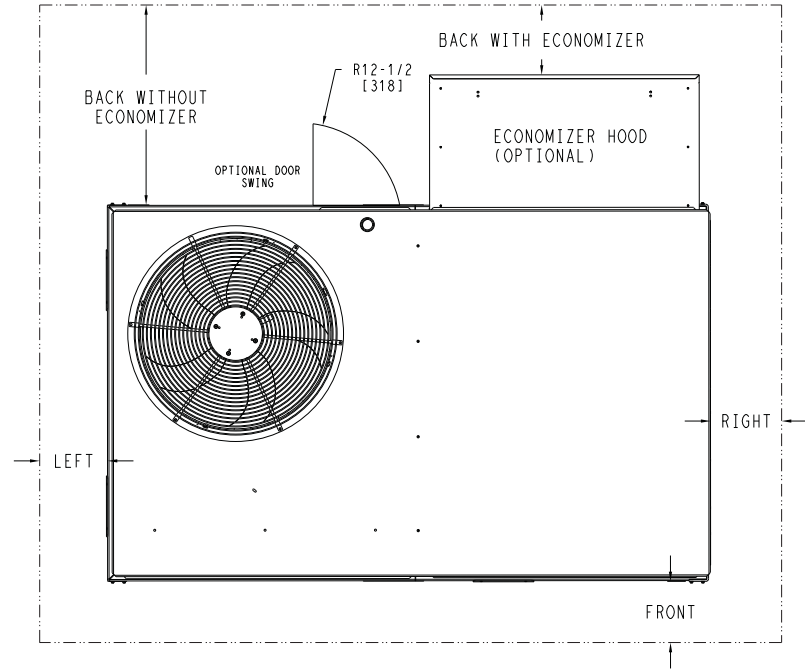
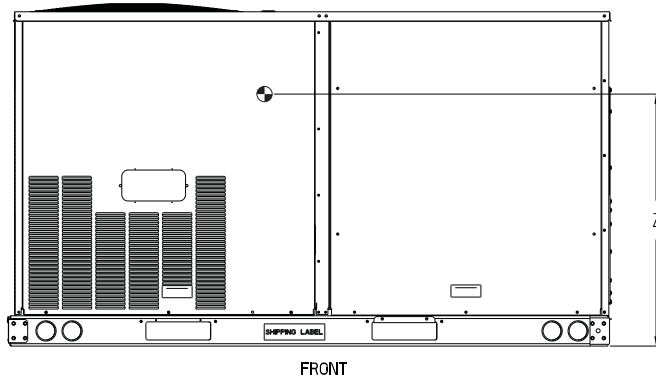
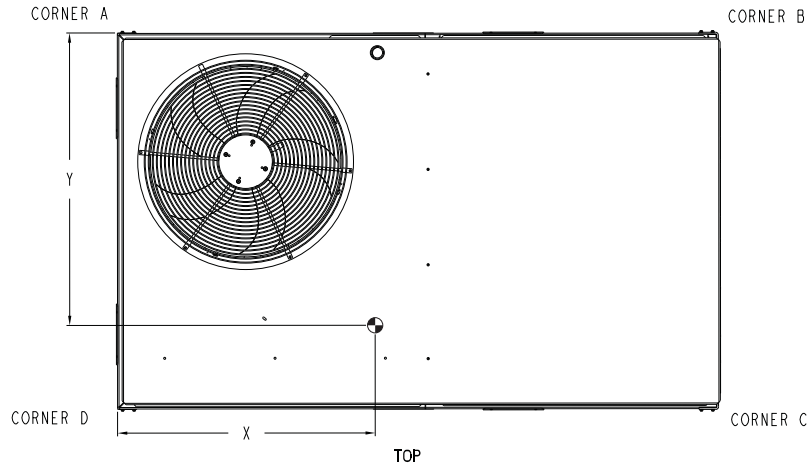
UNIT	STD. UNIT WEIGHT *		CORNER WEIGHT (A)		CORNER WEIGHT (B)		CORNER WEIGHT (C)		CORNER WEIGHT (D)		SUPPLY C.G.		HEIGHT			
	LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	X	Y		Z		
50JC**04	542	246	136	62	119	54	134	61	153	69	34 3/4	[883]	24 3/4	[629]	19 3/4	[502]
50JC**05	565	256	142	64	125	57	140	64	158	72	34 7/8	[886]	24 5/8	[625]	19 1/2	[495]
50JC**06	567	257	144	65	126	57	138	63	159	72	34 5/8	[879]	24 1/2	[622]	19 1/2	[495]

\* - STANDARD UNIT WEIGHT IS WITHOUT ELECTRIC HEAT AND WITHOUT PACKAGING. FOR OTHER OPTIONS AND ACCESSORIES REFER TO THE PRODUCT DATA CATALOG.



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**NOTE:**

1. FOR ALL MINIMUM CLEARANCES LOCAL CODES OR JURISDICTIONS MAY PREVAIL.

SURFACE	CLEARANCE		OPERATING CLEARANCE
	SERVICE WITH CONDUCTIVE BARRIER	SERVICE WITH NONCONDUCTIVE BARRIER	
FRONT	48 [1219mm]	36 [914mm]	18 [457mm]
LEFT	48 [1219mm]	42 [1067mm]	18 [457mm]
BACK W/O HOOD	48 [1219mm]	42 [1067mm]	18 [457mm]
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RIGHT	36 [914mm]	36 [914mm]	18 [457mm]
TOP	72 [1829mm]	72 [1829mm]	72 [1829mm]

ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES	50JC 04-06 SINGLE PACKAGE ELECTRICAL COOLING WITH ELECTRIC HEAT	48TC004039	REV
U.S. ECCN: NSR	2 OF 3	2/17/20	-			-

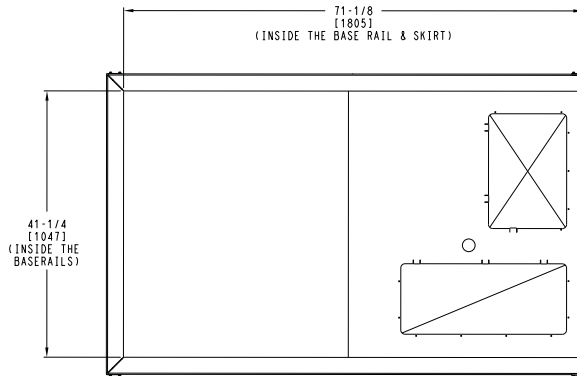
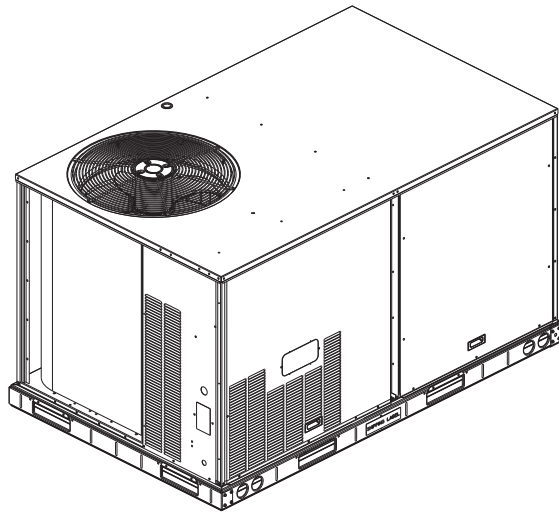


### 50JC\*\*04-06 BASE UNIT DIMENSIONS (cont)

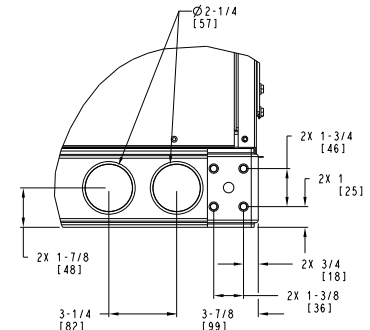


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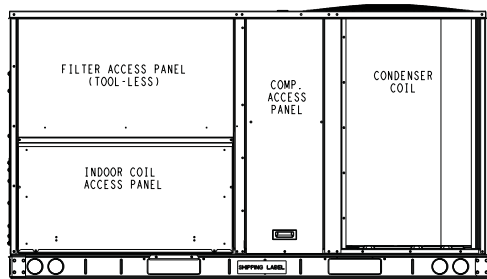
SUBMISSION OF THESE DRAWINGS OR DOCUMENTS DOES NOT CONSTITUTE PART PERFORMANCE OR ACCEPTANCE OF CONTRACT.



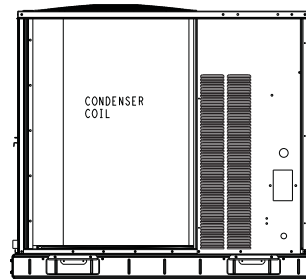
INSIDE BASERAIL DIMENSIONS  
BOTTOM



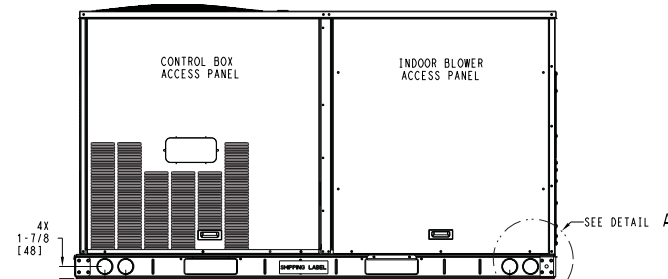
DETAIL A  
TYP 4 PLCS



BACK



LEFT



FRONT

ITC CLASSIFICATION U.S. ECCN: NSR	SHEET 3 OF 3	DATE 2/17/20	SUPERCEDES -	50JC 04-06 SINGLE PACKAGE ELECTRICAL COOLING WITH ELECTRIC HEAT	48TC004039	REV -
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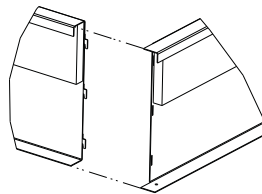
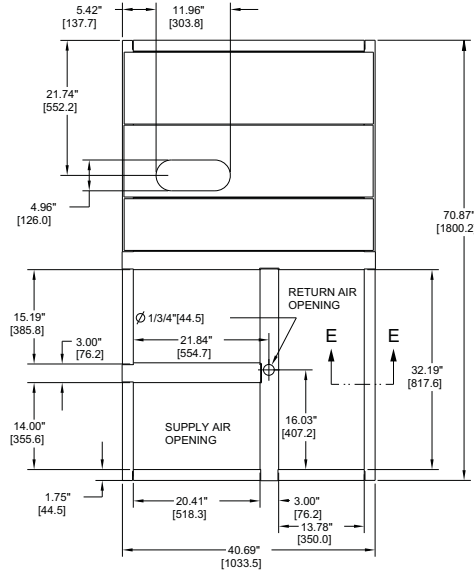


### ROOF CURB DIMENSIONS — 48/50JC50JC 04-06

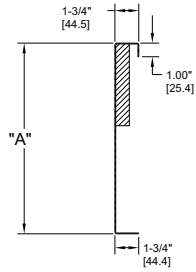
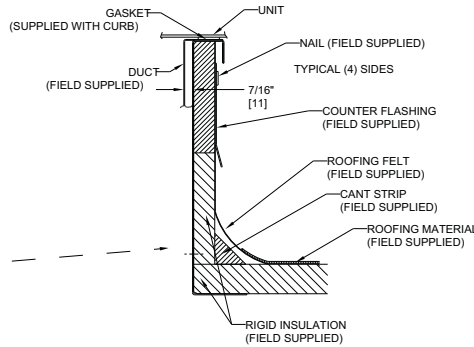
ROOF CURB ACCESSORY #	A
CRRFCURB001A01	14" [356]
CRRFCURB002A01	24" [610]

- NOTES:  
 1. ROOFCURB ACCESSORY IS SHIPPED DISASSEMBLED.  
 2. INSULATED PANELS: 25.4 [1"] THK. POLYURETHANE FOAM, 44.5 [1-3/4"] # DENSITY.  
 3. DIMENSIONS IN [ ] ARE IN MILLIMETERS.  
 4. ROOFCURB: 18 GAGE STEEL.  
 5. ATTACH DUCTWORK TO CURB. (FLANGES OF DUCT REST ON CURB).  
 6. SERVICE CLEARANCE 4 FEET ON EACH SIDE.  
 7. DIRECTION OF AIR FLOW.  
 8. CONNECTOR PACKAGE CRBTMPWR001A01 IS FOR THRU-THE-CURB GAS TYPE PACKAGE CRBTMPWR003A01 IS FOR THRU-THE-BOTTOM TYPE GAS CONNECTIONS.

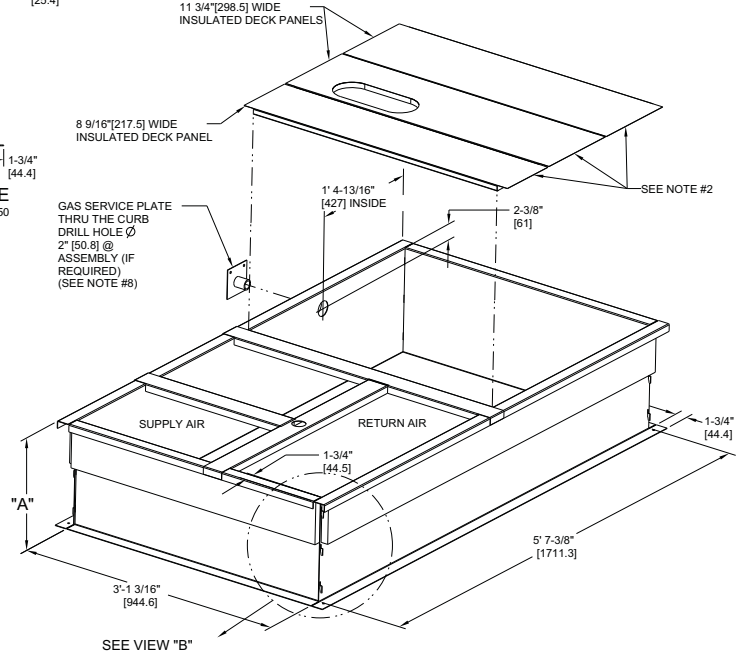
CONNECTOR PKG. ACC.	GAS CONNECTION TYPE	GAS FITTING	POWER WIRING FITTING	CONTROL WIRING FITTING	ACCESSORY CONVENIENCE OUTLET WIRING CONNECTOR
CRBTMPWR001A01	THRU THE CURB	3/4" [19] NPT	3/4" [19] NPT	1/2" [12.7] NPT	1/2" [12.7] NPT
CRBTMPWR003A01	THRU THE BOTTOM	1/2" [12.7] NPT			



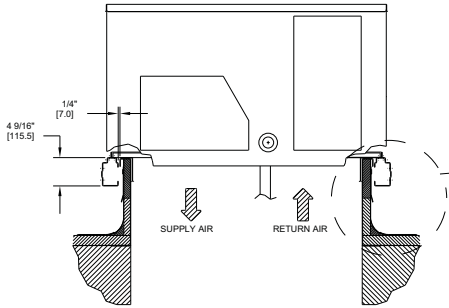
VIEW "B" CORNER DETAIL



SECTION E-E SCALE 0.250



CERTIFIED DRAWING



A	OVERALL DIM. 5'-7 3/8" WAS 5'-7 7/8"; 18GA MATERIAL WA 16 GA.; NAIL FIELD SUPPLIED WAS WITH CURB	04/22/13	MMC	-	-	1067898
REV	REVISION RECORD	DATE	BY	CHKD	APPD	ECN NO.

DRAWING RELEASE LEVEL: PRODUCTION		UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES		TITLE	
THIRD ANGLE PROJECTION	TOLERANCES ON:	CURB ASY, ROOF			
MATERIAL	1 DEC ±	2 DEC ±	3 DEC ±	ANG ±	REV
ENGINEERING REQUIREMENTS	AUTHORIZATION NUMBER 1041738				SIZE
T-005, Y-002	ENGINEERING	MANUFACTURING	DRAWING NUMBER		REV
WEIGHT	DRAFTER	CHECKER	48TC400427		B
SURFACE FINISH	MMC	06/17/11	SHEET 5 OF 5		
MFG/PURCH	MODEL (INTERNAL USE ONLY)		NEXT DRAWING	SCALE	DISTRIBUTION
PURCH			-	N/A	MMC





## 48/50JC\*\*04 LOW SPEED (2000 COMPRESSOR RPM AND 700 ODF RPM) COOLING CAPACITIES

48/50JC**04			AMBIENT TEMPERATURE (F)																
			85			95			105			115			125				
			EAT (db)			EAT (db)			EAT (db)			EAT (db)			EAT (db)				
			75	80	85	75	80	85	75	80	85	75	80	85	75	80	85		
750 Cfm	EAT (wb)	58	TC	16.9	16.9	19.2	15.9	15.9	18.1	14.8	14.8	16.9	13.7	13.7	15.7	12.5	12.5	14.4	
			SHC	14.6	16.9	19.2	13.7	15.9	18.1	12.7	14.8	16.9	11.6	13.7	15.7	10.6	12.5	14.4	
		62	TC	16.9	16.9	20.0	15.9	15.9	18.9	14.8	14.8	17.7	13.7	13.7	16.4	12.5	12.5	15.0	
			SHC	13.8	16.9	20.0	12.9	15.9	18.9	12.0	14.8	17.7	11.0	13.7	16.4	9.9	12.5	15.0	
		67	TC	17.8	17.8	19.1	16.6	16.6	18.5	15.3	15.3	17.8	13.9	13.9	17.1	12.6	12.6	16.1	
			SHC	11.4	15.3	19.1	10.8	14.6	18.5	10.1	14.0	17.8	9.4	13.2	17.1	8.6	12.3	16.1	
	72	TC	20.0	20.0	20.0	18.6	18.6	18.6	17.3	17.3	17.3	15.8	15.8	15.8	14.2	14.2	14.2		
		SHC	7.7	11.5	15.3	7.1	10.9	14.7	6.4	10.2	14.0	5.7	9.5	13.3	5.0	8.8	12.6		
	76	TC	—	21.8	21.8	—	20.4	20.4	—	18.9	18.9	—	17.4	17.4	—	15.7	15.7		
		SHC	—	8.5	12.2	—	7.9	11.6	—	7.2	10.9	—	6.5	10.2	—	5.8	9.5		
	900 Cfm	EAT (wb)	58	TC	17.9	17.9	20.3	16.8	16.8	19.1	15.7	15.7	17.9	14.4	14.4	16.5	13.2	13.2	15.1
				SHC	15.4	17.9	20.3	14.5	16.8	19.1	13.4	15.7	17.9	12.3	14.4	16.5	11.2	13.2	15.1
62			TC	17.9	17.9	21.1	16.8	16.8	19.9	15.7	15.7	18.6	14.5	14.5	17.3	13.2	13.2	15.8	
			SHC	14.6	17.9	21.1	13.7	16.8	19.9	12.7	15.7	18.6	11.6	14.5	17.3	10.5	13.2	15.8	
67			TC	18.3	18.3	21.7	17.0	17.0	21.0	15.7	15.7	20.1	14.5	14.5	18.7	13.2	13.2	17.2	
			SHC	12.6	17.2	21.7	12.0	16.5	21.0	11.2	15.6	20.1	10.3	14.5	18.7	9.2	13.2	17.2	
72		TC	20.4	20.4	20.4	19.1	19.1	19.1	17.6	17.6	17.6	16.1	16.1	16.1	14.5	14.5	14.5		
		SHC	8.2	12.7	17.2	7.6	12.1	16.6	6.9	11.4	15.9	6.2	10.7	15.2	5.5	10.0	14.5		
76		TC	—	22.3	22.3	—	20.8	20.8	—	19.3	19.3	—	17.7	17.7	—	16.0	16.0		
		SHC	—	9.1	13.4	—	8.4	12.8	—	7.7	12.0	—	7.0	11.4	—	6.3	10.6		
1050 Cfm		EAT (wb)	58	TC	18.6	18.6	21.2	17.5	17.5	19.9	16.3	16.3	18.6	15.0	15.0	17.2	13.7	13.7	15.7
				SHC	16.1	18.6	21.2	15.1	17.5	19.9	14.0	16.3	18.6	12.9	15.0	17.2	11.7	13.7	15.7
	62		TC	18.6	18.6	22.0	17.5	17.5	20.8	16.3	16.3	19.4	15.1	15.1	18.0	13.7	13.7	16.4	
			SHC	15.3	18.6	22.0	14.3	17.5	20.8	13.3	16.3	19.4	12.1	15.1	18.0	11.0	13.7	16.4	
	67		TC	18.7	18.7	23.5	17.6	17.6	22.2	16.3	16.3	21.0	15.1	15.1	19.4	13.7	13.7	17.8	
			SHC	13.5	18.5	23.5	12.6	17.4	22.2	11.7	16.3	21.0	10.7	15.1	19.4	9.6	13.7	17.8	
	72	TC	20.7	20.7	20.7	19.3	19.3	19.3	17.9	17.9	17.9	16.3	16.3	17.0	14.7	14.7	16.3		
		SHC	8.7	13.8	19.0	8.0	13.2	18.4	7.3	12.5	17.7	6.6	11.8	17.0	5.9	11.1	16.3		
	76	TC	—	22.6	22.6	—	21.1	21.1	—	19.6	19.6	—	17.9	17.9	—	16.2	16.2		
		SHC	—	9.6	14.6	—	8.9	13.9	—	8.2	13.2	—	7.5	12.5	—	6.8	11.7		
	1200 Cfm	EAT (wb)	58	TC	19.3	19.3	21.9	18.1	18.1	20.6	16.8	16.8	19.2	15.5	15.5	17.8	14.1	14.1	16.2
				SHC	16.7	19.3	21.9	15.6	18.1	20.6	14.5	16.8	19.2	13.3	15.5	17.8	12.1	14.1	16.2
62			TC	19.3	19.3	22.7	18.1	18.1	21.4	16.9	16.9	20.0	15.5	15.5	18.5	14.2	14.2	16.9	
			SHC	15.8	19.3	22.7	14.8	18.1	21.4	13.7	16.9	20.0	12.6	15.5	18.5	11.4	14.2	16.9	
67			TC	19.3	19.3	24.5	18.1	18.1	23.1	16.9	16.9	21.6	15.6	15.6	20.0	14.2	14.2	18.4	
			SHC	14.1	19.3	24.5	13.1	18.1	23.1	12.1	16.9	21.6	11.1	15.6	20.0	10.0	14.2	18.4	
72		TC	20.9	20.9	20.9	19.6	19.6	20.1	18.1	18.1	19.4	16.5	16.5	18.7	14.8	14.8	18.0		
		SHC	8.9	14.6	20.2	8.4	14.3	20.1	7.7	13.6	19.4	7.0	12.9	18.7	6.3	12.1	18.0		
76		TC	—	22.8	22.8	—	21.4	21.4	—	19.8	19.8	—	18.1	18.1	—	16.3	16.3		
		SHC	—	10.0	15.5	—	9.4	14.9	—	8.7	14.3	—	7.9	13.5	—	7.1	12.6		
1350 Cfm		EAT (wb)	58	TC	19.8	19.8	22.4	18.6	18.6	21.1	17.3	17.3	19.7	15.9	15.9	18.2	14.5	14.5	16.6
				SHC	17.1	19.8	22.4	16.0	18.6	21.1	14.9	17.3	19.7	13.7	15.9	18.2	12.4	14.5	16.6
	62		TC	19.8	19.8	23.3	18.6	18.6	22.0	17.3	17.3	20.5	15.9	15.9	19.0	14.5	14.5	17.4	
			SHC	16.2	19.8	23.3	15.2	18.6	22.0	14.1	17.3	20.5	12.9	15.9	19.0	11.7	14.5	17.4	
	67		TC	19.8	19.8	25.1	18.6	18.6	23.7	17.3	17.3	22.2	16.0	16.0	20.5	14.5	14.5	18.8	
			SHC	14.5	19.8	25.1	13.5	18.6	23.7	12.5	17.3	22.2	11.4	16.0	20.5	10.3	14.5	18.8	
	72	TC	21.1	21.1	22.0	19.7	19.7	21.8	18.2	18.2	21.1	16.6	16.6	20.4	14.9	14.9	19.6		
		SHC	9.4	15.7	22.0	8.8	15.3	21.8	8.1	14.6	21.1	7.4	13.9	20.4	6.7	13.2	19.6		
	76	TC	—	23.1	23.1	—	21.6	21.6	—	19.9	19.9	—	18.2	18.2	—	16.4	16.4		
		SHC	—	10.4	16.6	—	9.8	16.0	—	9.1	15.2	—	8.3	14.4	—	7.5	13.4		

### LEGEND

- Do Not Operate
- Cfm — Cubic Feet Per Minute (Supply Air)
- EAT (db) — Entering Air Temperature (dry bulb)
- EAT (wb) — Entering Air Temperature (wet bulb)
- SHC — Sensible Heat Capacity (1000 Btuh) Gross
- TC — Total Capacity (1000 Btuh) Gross

NOTE: See minimum-maximum airflow ratings on page 9.

## 48/50JC\*\*04 INTERMEDIATE SPEED (2800 COMPRESSOR RPM AND 800 ODF RPM) COOLING CAPACITIES

48/50JC**04				AMBIENT TEMPERATURE (F)															
				85			95			105			115			125			
				EAT (db)			EAT (db)			EAT (db)			EAT (db)			EAT (db)			
				75	80	85	75	80	85	75	80	85	75	80	85	75	80	85	
750 Cfm	EAT (wb)	58	TC	21.5	21.5	24.4	20.4	20.4	23.2	19.1	19.1	21.8	17.9	17.9	20.4	16.5	16.5	19.0	
			SHC	18.6	21.5	24.4	17.5	20.4	23.2	16.4	19.1	21.8	15.3	17.9	20.4	14.1	16.5	19.0	
		62	TC	21.7	21.7	25.1	20.6	20.6	23.6	19.2	19.2	22.8	17.9	17.9	21.3	16.5	16.5	19.8	
			SHC	17.5	21.3	25.1	16.4	20.0	23.6	15.6	19.2	22.8	14.5	17.9	21.3	13.3	16.5	19.8	
		67	TC	24.2	24.2	24.2	22.7	22.7	22.7	21.1	21.1	21.1	19.5	19.5	19.5	17.8	17.8	18.3	
			SHC	13.8	17.7	21.5	13.1	16.9	20.7	12.3	16.1	20.0	11.5	15.3	19.2	10.7	14.5	18.3	
	72	TC	26.9	26.9	26.9	25.3	25.3	25.3	23.6	23.6	23.6	21.9	21.9	21.9	20.0	20.0	20.0		
		SHC	10.1	13.9	17.6	9.4	13.1	16.9	8.6	12.4	16.2	7.8	11.6	15.4	7.0	10.7	14.5		
	76	TC	—	29.2	29.2	—	27.6	27.6	—	25.8	25.8	—	23.9	23.9	—	22.0	22.0		
		SHC	—	10.9	14.3	—	10.1	13.7	—	9.4	13.0	—	8.6	12.2	—	7.7	11.4		
	900 Cfm	EAT (wb)	58	TC	22.9	22.9	26.0	21.7	21.7	24.7	20.4	20.4	23.2	19.0	19.0	21.7	17.6	17.6	20.1
				SHC	19.8	22.9	26.0	18.7	21.7	24.7	17.6	20.4	23.2	16.3	19.0	21.7	15.0	17.6	20.1
62			TC	22.9	22.9	27.1	21.7	21.7	25.7	20.4	20.4	24.2	19.1	19.1	22.7	17.6	17.6	21.0	
			SHC	18.8	22.9	27.1	17.7	21.7	25.7	16.6	20.4	24.2	15.4	19.1	22.7	14.2	17.6	21.0	
67			TC	24.9	24.9	24.9	23.4	23.4	23.4	21.7	21.7	22.6	20.0	20.0	21.8	18.2	18.2	21.0	
			SHC	15.1	19.7	24.2	14.4	18.9	23.4	13.6	18.1	22.6	12.7	17.3	21.8	11.9	16.4	21.0	
72		TC	27.7	27.7	27.7	26.1	26.1	26.1	24.3	24.3	24.3	22.5	22.5	22.5	20.5	20.5	20.5		
		SHC	10.7	15.1	19.6	9.9	14.4	18.9	9.1	13.6	18.1	8.3	12.8	17.3	7.4	11.9	16.4		
76		TC	—	30.1	30.1	—	28.4	28.4	—	26.5	26.5	—	24.6	24.6	—	22.5	22.5		
		SHC	—	11.5	15.8	—	10.8	15.1	—	10.0	14.3	—	9.2	13.5	—	8.3	12.7		
1050 Cfm		EAT (wb)	58	TC	24.1	24.1	27.3	22.8	22.8	25.9	21.4	21.4	24.4	20.0	20.0	22.8	18.4	18.4	21.1
				SHC	20.8	24.1	27.3	19.7	22.8	25.9	18.4	21.4	24.4	17.1	20.0	22.8	15.8	18.4	21.1
	62		TC	24.1	24.1	28.4	22.8	22.8	27.0	21.4	21.4	25.4	20.0	20.0	23.7	18.4	18.4	22.0	
			SHC	19.8	24.1	28.4	18.7	22.8	27.0	17.5	21.4	25.4	16.2	20.0	23.7	14.9	18.4	22.0	
	67		TC	25.5	25.5	26.8	23.9	23.9	26.0	22.3	22.3	25.5	20.4	20.4	24.3	18.6	18.6	23.3	
			SHC	16.3	21.6	26.8	15.6	20.8	26.0	14.9	20.2	25.5	13.9	19.1	24.3	13.0	18.1	23.3	
	72	TC	28.3	28.3	28.3	26.5	26.5	26.5	24.8	24.8	24.8	22.9	22.9	22.9	20.9	20.9	20.9		
		SHC	11.2	16.3	21.5	10.3	15.4	20.5	9.6	14.7	19.9	8.7	13.9	19.1	7.9	13.1	18.2		
	76	TC	—	30.4	30.4	—	28.8	28.8	—	27.0	27.0	—	25.0	25.0	—	22.9	22.9		
		SHC	—	11.8	16.4	—	11.3	16.3	—	10.5	15.6	—	9.7	14.7	—	8.8	13.9		
	1200 Cfm	EAT (wb)	58	TC	25.0	25.0	28.4	23.7	23.7	26.9	22.2	22.2	25.3	20.7	20.7	23.6	19.1	19.1	21.8
				SHC	21.7	25.0	28.4	20.5	23.7	26.9	19.2	22.2	25.3	17.8	20.7	23.6	16.4	19.1	21.8
62			TC	25.0	25.0	29.5	23.7	23.7	28.0	22.2	22.2	26.3	20.7	20.7	24.6	19.1	19.1	22.8	
			SHC	20.6	25.0	29.5	19.4	23.7	28.0	18.2	22.2	26.3	16.9	20.7	24.6	15.5	19.1	22.8	
67			TC	25.9	25.9	29.1	24.3	24.3	28.4	22.6	22.6	27.5	20.9	20.9	25.9	19.3	19.3	24.2	
			SHC	17.4	23.3	29.1	16.7	22.6	28.4	15.8	21.7	27.5	14.7	20.3	25.9	13.5	18.8	24.2	
72		TC	28.6	28.6	28.6	27.0	27.0	27.0	25.2	25.2	25.2	23.2	23.2	23.2	21.2	21.2	21.2		
		SHC	11.4	16.9	22.5	10.8	16.6	22.4	10.0	15.8	21.7	9.2	15.0	20.8	8.3	14.1	20.0		
76		TC	—	—	—	—	29.3	29.3	—	27.4	27.4	—	25.3	25.3	—	23.2	23.2		
		SHC	—	—	—	—	11.8	17.5	—	11.0	16.7	—	10.2	15.8	—	9.3	14.9		
1350 Cfm		EAT (wb)	58	TC	25.8	25.8	29.3	24.4	24.4	27.7	22.9	22.9	26.1	21.4	21.4	24.3	19.7	19.7	22.5
				SHC	22.4	25.8	29.3	21.1	24.4	27.7	19.8	22.9	26.1	18.4	21.4	24.3	16.9	19.7	22.5
	62		TC	25.8	25.8	30.4	24.4	24.4	28.8	22.9	22.9	27.1	21.4	21.4	25.4	19.7	19.7	23.4	
			SHC	21.2	25.8	30.4	20.0	24.4	28.8	18.7	22.9	27.1	17.4	21.4	25.4	16.0	19.7	23.4	
	67		TC	26.2	26.2	31.7	24.6	24.6	30.5	23.0	23.0	29.1	21.4	21.4	27.4	19.7	19.7	25.3	
			SHC	18.6	25.1	31.7	17.7	24.1	30.5	16.6	22.8	29.1	15.4	21.4	27.4	14.1	19.7	25.3	
	72	TC	29.0	29.0	29.0	27.3	27.3	27.3	25.5	25.5	25.5	23.5	23.5	23.5	21.4	21.4	21.7		
		SHC	11.8	18.1	24.4	11.2	17.7	24.2	10.4	16.9	23.4	9.6	16.0	22.5	8.7	15.2	21.7		
	76	TC	—	31.5	31.5	—	29.7	29.7	—	27.7	27.7	—	25.6	25.6	—	23.4	23.4		
		SHC	—	12.9	19.0	—	12.3	18.6	—	11.5	17.7	—	10.6	16.9	—	9.7	15.9		

**LEGEND**

- Do Not Operate
- Cfm** — Cubic Feet Per Minute (Supply Air)
- EAT (db)** — Entering Air Temperature (dry bulb)
- EAT (wb)** — Entering Air Temperature (wet bulb)
- SHC** — Sensible Heat Capacity (1000 Btuh) Gross
- TC** — Total Capacity (1000 Btuh) Gross

NOTE: See minimum-maximum airflow ratings on page 9.



### 48/50JC\*\*04 FULL SPEED (4400 COMPRESSOR RPM AND 1100 ODF RPM) COOLING CAPACITIES

48/50JC**04				AMBIENT TEMPERATURE (F)															
				85			95			105			115			125			
				EAT (db)			EAT (db)			EAT (db)			EAT (db)			EAT (db)			
				75	80	85	75	80	85	75	80	85	75	80	85	75	80	85	
900 Cfm	EAT (wb)	58	TC	30.8	30.8	34.9	29.4	29.4	33.4	27.9	27.9	31.8	26.4	26.4	30.0	24.7	24.7	28.2	
			SHC	26.7	30.8	34.9	25.4	29.4	33.4	24.1	27.9	31.8	22.7	26.4	30.0	21.2	24.7	28.2	
		62	TC	32.6	32.6	33.1	30.9	30.9	32.1	29.0	29.0	31.1	27.0	27.0	30.1	25.0	25.0	28.9	
			SHC	24.0	28.6	33.1	23.0	27.6	32.1	22.0	26.6	31.1	21.0	25.5	30.1	19.8	24.4	28.9	
		67	TC	36.3	36.3	36.3	34.4	34.4	34.4	32.4	32.4	32.4	30.2	30.2	30.2	27.9	27.9	27.9	
			SHC	19.6	24.1	28.6	18.7	23.1	27.6	17.7	22.2	26.7	16.6	21.1	25.6	15.5	20.1	24.6	
	72	TC	40.3	40.3	40.3	38.2	38.2	38.2	36.0	36.0	36.0	33.7	33.7	33.7	31.2	31.2	31.2		
		SHC	15.3	19.6	23.9	14.3	18.7	23.0	13.3	17.7	22.0	12.2	16.7	21.1	11.1	15.6	20.0		
	76	TC	—	42.9	42.9	—	41.2	41.2	—	39.2	39.2	—	36.7	36.7	—	34.0	34.0		
		SHC	—	15.4	20.4	—	14.6	19.5	—	14.0	18.9	—	13.0	16.9	—	12.0	16.1		
	1050 Cfm	EAT (wb)	58	TC	32.7	32.7	37.0	31.2	31.2	35.4	29.6	29.6	33.6	27.9	27.9	31.8	26.1	26.1	29.8
				SHC	28.3	32.7	37.0	27.0	31.2	35.4	25.6	29.6	33.6	24.1	27.9	31.8	22.5	26.1	29.8
62			TC	33.8	33.8	36.5	31.9	31.9	35.5	30.0	30.0	34.3	28.2	28.2	32.5	26.2	26.2	31.1	
			SHC	26.0	31.3	36.5	25	30.2	35.5	24.0	29.1	34.3	22.5	27.5	32.5	21.3	26.2	31.1	
67			TC	37.5	37.5	37.5	35.5	35.5	35.5	33.3	33.3	33.3	31.1	31.1	31.1	28.7	28.7	28.7	
			SHC	21.0	26.1	31.3	20.0	25.1	30.3	18.9	24.1	29.3	17.9	23.1	28.3	16.8	22.0	27.2	
72		TC	41.0	41.0	41.0	39.3	39.3	39.3	37.0	37.0	37.0	34.6	34.6	34.6	32.0	32.0	32.0		
		SHC	15.7	20.4	25.2	14.9	19.9	25.0	13.8	18.9	24.0	12.8	17.9	23.0	11.7	16.8	21.9		
76		TC	—	44.4	44.4	—	42.6	42.6	—	40.2	40.2	—	37.6	37.6	—	34.8	34.8		
		SHC	—	16.2	22.0	—	15.6	19.7	—	14.7	19.3	—	13.7	18.5	—	12.6	17.5		
1200 Cfm		EAT (wb)	58	TC	34.3	34.3	38.8	32.7	32.7	37.1	31.0	31.0	35.2	29.2	29.2	33.2	27.3	27.3	31.1
				SHC	29.7	34.3	38.8	28.3	32.7	37.1	26.8	31.0	35.2	25.2	29.2	33.2	23.5	27.3	31.1
	62		TC	34.7	34.7	39.6	32.8	32.8	38.3	31.3	31.3	36.0	29.3	29.3	34.6	27.4	27.4	32.4	
			SHC	27.9	33.7	39.6	26.8	32.5	38.3	25.1	30.6	36.0	23.9	29.3	34.6	22.3	27.4	32.4	
	67		TC	38.4	38.4	38.4	36.3	36.3	36.3	34.1	34.1	34.1	31.8	31.8	31.8	29.3	29.3	29.8	
			SHC	22.2	28.0	33.8	21.2	27.1	32.9	20.2	26.0	31.9	19.1	25.0	30.9	18.0	23.9	29.8	
	72	TC	42.2	42.2	42.2	40.2	40.2	40.2	37.8	37.8	37.8	35.3	35.3	35.3	32.7	32.7	32.7		
		SHC	16.2	21.7	27.3	15.4	21.1	26.8	14.3	20.1	25.9	13.2	19.0	24.8	12.1	17.9	23.7		
	76	TC	—	45.7	45.7	—	43.6	43.6	—	41.0	41.0	—	38.3	38.3	—	35.5	35.5		
		SHC	—	17.1	21.9	—	16.3	21.6	—	15.3	20.8	—	14.3	19.8	—	13.2	18.8		
	1350 Cfm	EAT (wb)	58	TC	35.6	35.6	40.3	34.0	34.0	38.5	32.2	32.2	36.6	30.3	30.3	34.5	28.3	28.3	32.3
				SHC	30.9	35.6	40.3	29.4	34.0	38.5	27.9	32.2	36.6	26.2	30.3	34.5	24.4	28.3	32.3
62			TC	35.9	35.9	41.5	34.0	34.0	40.1	32.2	32.2	38.1	30.4	30.4	35.9	28.4	28.4	33.6	
			SHC	29.1	35.3	41.5	27.9	34.0	40.1	26.4	32.2	38.1	24.8	30.4	35.9	23.1	28.4	33.6	
67			TC	39.2	39.2	39.2	37.0	37.0	37.0	34.7	34.7	34.7	32.3	32.3	33.4	29.8	29.8	32.3	
			SHC	23.4	29.9	36.4	22.4	28.9	35.5	21.3	27.9	34.4	20.2	26.8	33.4	19.1	25.7	32.3	
72		TC	43.2	43.2	43.2	40.9	40.9	40.9	38.5	38.5	38.5	35.9	35.9	35.9	33.2	33.2	33.2		
		SHC	16.7	23.1	29.4	15.8	22.2	28.6	14.7	21.2	27.6	13.6	20.1	26.6	12.5	19.0	25.5		
76		TC	—	46.6	46.6	—	44.3	44.3	—	41.7	41.7	—	38.9	38.9	—	36.0	36.0		
		SHC	—	17.7	23.5	—	16.8	22.9	—	15.8	22.0	—	14.8	21.0	—	13.6	20.0		
1500 Cfm		EAT (wb)	58	TC	36.8	36.8	41.7	35.1	35.1	39.8	33.2	33.2	37.7	31.3	31.3	35.6	29.2	29.2	33.2
				SHC	32.0	36.8	41.7	30.4	35.1	39.8	28.8	33.2	37.7	27.0	31.3	35.6	25.2	29.2	33.2
	62		TC	36.9	36.9	43.4	35.1	35.1	41.4	33.3	33.3	39.3	31.3	31.3	37.0	29.2	29.2	34.6	
			SHC	30.4	36.9	43.4	28.9	35.1	41.4	27.3	33.3	39.3	25.6	31.3	37.0	23.9	29.2	34.6	
	67		TC	39.8	39.8	39.8	37.5	37.5	37.9	35.2	35.2	36.9	32.7	32.7	35.8	30.1	30.1	34.6	
			SHC	24.5	31.7	38.9	23.5	30.7	37.9	22.4	29.7	36.9	21.3	28.6	35.8	20.2	27.4	34.6	
	72	TC	43.9	43.9	43.9	41.5	41.5	41.5	39.0	39.0	39.0	36.4	36.4	36.4	33.6	33.6	33.6		
		SHC	17.2	24.2	31.3	16.2	23.3	30.3	15.1	22.2	29.3	14.0	21.1	28.3	12.9	20.0	27.1		
	76	TC	—	47.4	47.4	—	44.9	44.9	—	42.2	42.2	—	39.4	39.4	—	36.4	36.4		
		SHC	—	18.3	24.9	—	17.3	24.1	—	16.3	23.2	—	15.2	22.1	—	14.1	21.0		

**LEGEND**

- Do Not Operate
- Cfm** — Cubic Feet Per Minute (Supply Air)
- EAT (db)** — Entering Air Temperature (dry bulb)
- EAT (wb)** — Entering Air Temperature (wet bulb)
- SHC** — Sensible Heat Capacity (1000 Btuh) Gross
- TC** — Total Capacity (1000 Btuh) Gross

NOTE: See minimum-maximum airflow ratings on page 9.

## 48/50JC\*W04 — UNIT WITH HUMIDI-MIZER® SYSTEM IN SUBCOOLING MODE — COOLING CAPACITIES

TEMP (F) AIR ENTERING CONDENSER (Edb)		AIR ENTERING EVAPORATOR — SCFM/BF								
		900 / 0.01			1200 / 0.02			1500 / 0.04		
		Air Entering Evaporator — Ewb (F)								
		72	67	62	72	67	62	72	67	62
75	TC	42.4	37.9	33.8	45.1	40.6	36.4	47.0	42.3	38.2
	SHC	19.3	23.5	27.6	22.3	27.9	33.4	25.0	32.0	38.2
	kW	1.90	1.93	1.96	1.88	1.92	1.94	1.87	1.90	1.93
85	TC	39.7	35.4	31.5	42.3	37.9	33.9	44.0	39.5	35.7
	SHC	17.0	21.2	25.5	19.8	25.5	31.1	22.4	29.4	35.7
	kW	2.19	2.20	2.21	2.18	2.19	2.21	2.17	2.19	2.20
95	TC	37.0	32.9	29.1	39.4	35.2	31.3	40.9	36.7	33.1
	SHC	14.5	18.9	23.3	17.2	23.0	28.8	19.6	26.9	33.1
	kW	2.48	2.48	2.48	2.48	2.48	2.48	2.48	2.48	2.48
105	TC	34.1	30.2	26.7	36.3	32.4	28.7	37.7	33.7	30.4
	SHC	12.0	16.6	21.1	14.5	20.5	26.4	16.8	24.2	30.4
	kW	2.78	2.77	2.76	2.79	2.78	2.76	2.79	2.78	2.77
115	TC	31.2	27.5	24.2	33.2	29.4	26.0	34.4	30.6	27.6
	SHC	9.4	14.1	18.8	11.6	17.8	23.9	13.8	21.4	27.6
	kW	3.10	3.08	3.05	3.11	3.09	3.07	3.11	3.09	3.08
125	TC	28.2	24.7	21.5	29.9	26.4	23.2	31.0	27.4	24.7
	SHC	6.7	11.5	16.4	8.7	15.1	21.3	10.7	18.5	24.7
	kW	3.42	3.39	3.36	3.43	3.41	3.38	3.44	3.42	3.40

## 48/50JC\*W04 — UNIT WITH HUMIDI-MIZER SYSTEM IN HOT GAS REHEAT MODE — COOLING CAPACITIES

TEMP (F) AIR ENTERING CONDENSER (Edb)		AIR ENTERING EVAPORATOR — Ewb (F)								
		75 Dry Bulb 62.5 Wet Bulb (50% Relative)			75 Dry Bulb 64 Wet Bulb (56% Relative)			75 Dry Bulb 65.3 Wet Bulb (60% Relative)		
		Air Entering Evaporator — Cfm								
		900	1200	1500	900	1200	1500	900	1200	1500
80	TC	8.57	9.09	9.51	8.77	9.26	9.60	9.52	9.89	9.79
	SHC	0.47	2.04	3.65	-0.50	0.68	1.83	-1.07	-0.30	0.29
	kW	1.75	1.73	1.72	1.73	1.71	1.70	1.72	1.70	1.69
75	TC	9.11	9.45	9.82	9.24	9.81	10.16	9.67	10.10	10.37
	SHC	0.71	2.23	3.84	-0.35	0.88	2.06	-1.08	-0.26	0.57
	kW	1.75	1.73	1.72	1.73	1.71	1.70	1.72	1.70	1.69
70	TC	9.35	10.00	9.97	9.63	10.58	10.35	9.98	10.53	10.69
	SHC	0.83	2.49	4.05	-0.17	1.30	2.28	-0.91	-0.04	0.79
	kW	1.75	1.73	1.72	1.74	1.72	1.70	1.72	1.70	1.69
60	TC	9.79	10.52	10.96	10.30	10.87	11.21	10.50	11.15	11.21
	SHC	1.06	2.77	4.55	0.11	1.40	2.65	-0.71	0.25	1.05
	kW	1.75	1.73	1.72	1.74	1.72	1.71	1.72	1.71	1.70
50	TC	10.50	11.24	11.62	10.90	11.60	11.92	11.36	11.81	12.11
	SHC	1.39	3.24	4.98	0.36	1.74	3.02	-0.38	0.54	1.44
	kW	1.76	1.74	1.72	1.74	1.72	1.71	1.73	1.71	1.70
40	TC	11.12	11.93	12.42	11.57	12.32	12.68	11.94	12.60	12.95
	SHC	1.81	3.71	5.54	0.68	2.11	3.48	-0.15	0.92	1.87
	kW	1.76	1.74	1.72	1.75	1.72	1.71	1.73	1.71	1.70

### LEGEND

- Edb** — Entering Dry Bulb
- Ewb** — Entering Wet Bulb
- kW** — Compressor Power Input
- SCFM/BF** — Standard Cubic Feet per Minute/Bypass Factor
- SHC** — Sensible Heat Capacity (1000 Btuh) Gross
- TC** — Total Capacity (1000 Btuh) Gross



### 48/50JC\*\*05 LOW SPEED (1600 COMPRESSOR RPM AND 500 ODF RPM) COOLING CAPACITIES

48/50JC**05			AMBIENT TEMPERATURE (F)																
			85			95			105			115			125				
			EAT (db)			EAT (db)			EAT (db)			EAT (db)			EAT (db)				
			75	80	85	75	80	85	75	80	85	75	80	85	75	80	85		
1000 Cfm	EAT (wb)	58	TC	19.5	19.5	22.0	18.3	18.3	20.8	17.1	17.1	19.4	15.8	15.8	18.0	14.4	14.4	16.5	
			SHC	16.9	19.5	22.0	15.8	18.3	20.8	14.7	17.1	19.4	13.6	15.8	18.0	12.3	14.4	16.5	
		62	TC	19.5	19.5	22.9	18.3	18.3	21.6	17.1	17.1	20.2	15.8	15.8	18.8	14.4	14.4	17.2	
			SHC	16.0	19.5	22.9	15.0	18.3	21.6	13.9	17.1	20.2	12.8	15.8	18.8	11.6	14.4	17.2	
		67	TC	19.5	19.5	24.6	18.3	18.3	23.3	17.1	17.1	21.8	15.8	15.8	20.3	14.5	14.5	18.7	
			SHC	14.3	19.5	24.6	13.4	18.3	23.3	12.4	17.1	21.8	11.4	15.8	20.3	10.3	14.5	18.7	
	72	TC	21.6	21.6	21.6	20.2	20.2	20.2	18.7	18.7	18.7	17.2	17.2	17.5	15.5	15.5	16.7		
		SHC	9.3	14.5	19.7	8.6	13.8	19.0	7.9	13.1	18.3	7.1	12.3	17.5	6.4	11.6	16.7		
	76	TC	—	23.6	23.6	—	22.1	22.1	—	20.5	20.5	—	18.8	18.8	—	15.9	15.9		
		SHC	—	10.3	15.3	—	9.6	14.6	—	8.8	13.8	—	8.0	13.0	—	10.3	15.8		
	1200 Cfm	EAT (wb)	58	TC	20.3	20.3	23.0	19.1	19.1	21.7	17.8	17.8	20.3	16.5	16.5	18.8	15.1	15.1	17.2
				SHC	17.7	20.3	23.0	16.6	19.1	21.7	15.4	17.8	20.3	14.2	16.5	18.8	12.9	15.1	17.2
62			TC	20.4	20.4	23.9	19.1	19.1	22.6	17.9	17.9	21.1	16.5	16.5	19.6	15.1	15.1	18.0	
			SHC	16.8	20.4	23.9	15.7	19.1	22.6	14.6	17.9	21.1	13.4	16.5	19.6	12.2	15.1	18.0	
67			TC	20.4	20.4	25.8	19.2	19.2	24.3	17.9	17.9	22.8	16.5	16.5	21.2	15.1	15.1	19.4	
			SHC	15.0	20.4	25.8	14.0	19.2	24.3	13.0	17.9	22.8	11.9	16.5	21.2	10.7	15.1	19.4	
72		TC	22.0	22.0	22.2	20.5	20.5	21.5	19.0	19.0	20.8	17.4	17.4	20.0	15.7	15.7	19.2		
		SHC	9.9	16.1	22.2	9.2	15.4	21.5	8.5	14.6	20.8	7.7	13.9	20.0	7.0	13.1	19.2		
76		TC	—	24.0	24.0	—	22.4	22.4	—	20.8	20.8	—	19.1	19.1	—	16.5	16.5		
		SHC	—	11.0	16.9	—	10.2	16.1	—	9.4	15.3	—	8.6	14.4	—	9.8	16.4		
1400 Cfm		EAT (wb)	58	TC	21.0	21.0	23.8	19.8	19.8	22.4	18.4	18.4	21.0	17.0	17.0	19.4	15.6	15.6	17.8
				SHC	18.3	21.0	23.8	17.1	19.8	22.4	15.9	18.4	21.0	14.7	17.0	19.4	13.3	15.6	17.8
	62		TC	21.1	21.1	24.7	19.8	19.8	23.3	18.5	18.5	21.8	17.0	17.0	20.2	15.6	15.6	18.5	
			SHC	17.4	21.1	24.7	16.3	19.8	23.3	15.1	18.5	21.8	13.9	17.0	20.2	12.6	15.6	18.5	
	67		TC	21.1	21.1	26.6	19.8	19.8	25.1	18.5	18.5	23.5	17.1	17.1	21.8	15.6	15.6	20.0	
			SHC	15.6	21.1	26.6	14.5	19.8	25.1	13.4	18.5	23.5	12.3	17.1	21.8	11.1	15.6	20.0	
	72	TC	22.2	22.2	24.7	20.7	20.7	24.0	19.2	19.2	23.2	17.6	17.6	22.4	15.9	15.9	21.6		
		SHC	10.5	17.6	24.7	9.8	16.9	24.0	9.1	16.1	23.2	8.3	15.4	22.4	7.6	14.6	21.6		
	76	TC	—	24.2	24.2	—	22.7	22.7	—	21.0	21.0	—	19.2	19.2	—	17.4	17.4		
		SHC	—	11.6	18.3	—	10.8	17.5	—	10.0	16.5	—	9.1	15.5	—	8.1	14.3		
	1600 Cfm	EAT (wb)	58	TC	21.6	21.6	24.4	20.3	20.3	23.0	18.9	18.9	21.5	17.5	17.5	19.9	15.9	15.9	18.2
				SHC	18.8	21.6	24.4	17.6	20.3	23.0	16.3	18.9	21.5	15.1	17.5	19.9	13.7	15.9	18.2
62			TC	21.6	21.6	25.4	20.3	20.3	23.9	18.9	18.9	22.4	17.5	17.5	20.7	15.9	15.9	19.0	
			SHC	17.8	21.6	25.4	16.7	20.3	23.9	15.5	18.9	22.4	14.3	17.5	20.7	12.9	15.9	19.0	
67			TC	21.6	21.6	27.2	20.3	20.3	25.7	18.9	18.9	24.1	17.5	17.5	22.4	16.0	16.0	20.5	
			SHC	16.0	21.6	27.2	14.9	20.3	25.7	13.8	18.9	24.1	12.7	17.5	22.4	11.4	16.0	20.5	
72		TC	22.4	22.4	27.1	20.9	20.9	26.3	19.3	19.3	25.5	17.7	17.7	24.6	16.2	16.2	22.0		
		SHC	11.1	19.1	27.1	10.4	18.4	26.3	9.7	17.6	25.5	8.9	16.8	24.6	7.8	14.9	22.0		
76		TC	—	24.4	24.4	—	22.8	22.8	—	21.1	21.1	—	19.3	19.3	—	17.5	17.5		
		SHC	—	12.0	19.5	—	11.3	18.6	—	10.4	17.6	—	9.4	16.3	—	8.5	17.3		
1800 Cfm		EAT (wb)	58	TC	22.0	22.0	24.9	20.7	20.7	23.4	19.3	19.3	21.9	17.8	17.8	20.3	16.2	16.2	18.5
				SHC	19.2	22.0	24.9	18.0	20.7	23.4	16.7	19.3	21.9	15.4	17.8	20.3	13.9	16.2	18.5
	62		TC	22.1	22.1	25.9	20.7	20.7	24.4	19.3	19.3	22.8	17.8	17.8	21.1	16.2	16.2	19.3	
			SHC	18.2	22.1	25.9	17.0	20.7	24.4	15.8	19.3	22.8	14.6	17.8	21.1	13.2	16.2	19.3	
	67		TC	22.1	22.1	27.8	20.7	20.7	26.2	19.3	19.3	24.6	17.8	17.8	22.8	16.3	16.3	20.9	
			SHC	16.3	22.1	27.8	15.2	20.7	26.2	14.1	19.3	24.6	12.9	17.8	22.8	11.7	16.3	20.9	
	72	TC	22.5	22.5	29.3	21.0	21.0	28.5	19.7	19.7	24.8	18.1	18.1	23.9	—	16.9	22.3		
		SHC	11.6	20.5	29.3	10.9	19.7	28.5	9.5	17.2	24.8	8.8	16.4	23.9	—	12.4	22.3		
	76	TC	—	24.6	24.6	—	22.9	22.9	—	21.2	21.2	—	19.3	19.3	—	17.5	17.5		
		SHC	—	12.5	20.6	—	11.6	19.5	—	10.7	18.5	—	9.6	17.1	—	8.5	15.6		

**LEGEND**

- Do Not Operate
- Cfm — Cubic Feet Per Minute (Supply Air)
- EAT (db) — Entering Air Temperature (dry bulb)
- EAT (wb) — Entering Air Temperature (wet bulb)
- SHC — Sensible Heat Capacity (1000 Btuh) Gross
- TC — Total Capacity (1000 Btuh) Gross

NOTE: See minimum-maximum airflow ratings on page 9.

## 48/50JC\*\*05 INTERMEDIATE SPEED (2567 COMPRESSOR RPM AND 825 ODF RPM) COOLING CAPACITIES

48/50JC**05			AMBIENT TEMPERATURE (F)																
			85			95			105			115			125				
			EAT (db)			EAT (db)			EAT (db)			EAT (db)			EAT (db)				
			75	80	85	75	80	85	75	80	85	75	80	85	75	80	85		
1000 Cfm	EAT (wb)	58	TC	28.0	28.0	31.7	26.5	26.5	30.1	25.0	25.0	28.4	23.5	23.5	26.7	21.8	21.8	24.8	
			SHC	24.3	28.0	31.7	23.0	26.5	30.1	21.6	25.0	28.4	20.2	23.5	26.7	18.7	21.8	24.8	
		62	TC	28.0	28.0	32.9	26.6	26.6	31.3	25.1	25.1	29.6	23.5	23.5	27.8	21.8	21.8	25.9	
			SHC	23.1	28.0	32.9	21.8	26.6	31.3	20.5	25.1	29.6	19.2	23.5	27.8	17.7	21.8	25.9	
		67	TC	30.5	30.5	30.5	28.7	28.7	28.7	26.8	26.8	27.2	24.8	24.8	26.2	22.7	22.7	25.2	
			SHC	18.5	23.8	29	17.6	22.9	28.1	16.7	21.9	27.2	15.7	21.0	26.2	14.7	19.9	25.2	
	72	TC	33.7	33.7	33.7	31.8	31.8	31.8	29.8	29.8	29.8	27.7	27.7	27.7	25.4	25.4	25.4		
		SHC	13.4	18.6	23.8	12.4	17.7	22.9	11.5	16.7	22.0	10.6	15.8	21.0	9.5	14.8	20.0		
	76	TC	—	36.5	36.5	—	34.4	34.4	—	32.3	32.3	—	30.1	30.1	—	27.6	27.6		
		SHC	—	14.4	19.5	—	13.5	18.6	—	12.5	17.6	—	11.6	16.7	—	10.5	15.6		
	1200 Cfm	EAT (wb)	58	TC	29.6	29.6	33.5	28.1	28.1	31.8	26.5	26.5	30.1	24.8	24.8	28.2	23.0	23.0	26.2
				SHC	25.7	29.6	33.5	24.4	28.1	31.8	22.9	26.5	30.1	21.4	24.8	28.2	19.8	23.0	26.2
62			TC	29.7	29.7	34.8	28.1	28.1	33.1	26.5	26.5	31.3	24.8	24.8	29.4	23.0	23.0	27.3	
			SHC	24.5	29.7	34.8	23.1	28.1	33.1	21.7	26.5	31.3	20.3	24.8	29.4	18.7	23.0	27.3	
67			TC	31.3	31.3	32.7	29.4	29.4	31.7	27.5	27.5	30.8	25.4	25.4	29.7	23.3	23.3	28.6	
			SHC	20.2	26.4	32.7	19.3	25.5	31.7	18.3	24.6	30.8	17.4	23.5	29.7	16.3	22.4	28.6	
72		TC	34.6	34.6	34.6	32.6	32.6	32.6	30.5	30.5	30.5	28.3	28.3	28.3	25.9	25.9	25.9		
		SHC	14.0	20.2	26.4	13.1	19.3	25.5	12.2	18.3	24.5	11.2	17.4	23.6	10.2	16.3	22.5		
76		TC	—	37.3	37.3	—	35.2	35.2	—	33.0	33.0	—	30.7	30.7	—	28.2	28.2		
		SHC	—	15.2	21.2	—	14.2	20.3	—	13.3	19.3	—	12.3	18.3	—	11.3	17.2		
1400 Cfm		EAT (wb)	58	TC	30.9	30.9	35.0	29.3	29.3	33.2	27.6	27.6	31.3	25.8	25.8	29.3	23.9	23.9	27.2
				SHC	26.9	30.9	35.0	25.4	29.3	33.2	23.9	27.6	31.3	22.3	25.8	29.3	20.6	23.9	27.2
	62		TC	31.0	31.0	36.3	29.3	29.3	34.5	27.7	27.7	32.6	25.8	25.8	30.5	23.9	23.9	28.4	
			SHC	25.6	31.0	36.3	24.2	29.3	34.5	22.7	27.7	32.6	21.1	25.8	30.5	19.5	23.9	28.4	
	67		TC	31.9	31.9	36.2	30.0	30.0	35.2	28.0	28.0	34.1	26.3	26.3	30.7	24.3	24.3	28.6	
			SHC	21.8	29	36.2	20.9	28.0	35.2	19.9	27.0	34.1	18.0	24.4	30.7	16.6	22.6	28.6	
	72	TC	35.2	35.2	35.2	33.1	33.1	33.1	30.9	30.9	30.9	28.7	28.7	28.7	26.3	26.3	26.3		
		SHC	14.6	21.8	28.9	13.7	20.8	28.0	12.7	19.9	27.0	11.8	18.9	26.0	10.7	17.9	25.0		
	76	TC	—	38.0	38.0	—	35.8	35.8	—	33.5	33.5	—	31.1	31.1	—	28.6	28.6		
		SHC	—	15.9	22.8	—	14.9	21.9	—	14.0	20.9	—	12.9	19.8	—	11.9	18.7		
	1600 Cfm	EAT (wb)	58	TC	32.0	32.0	36.1	30.3	30.3	34.3	28.5	28.5	32.4	26.7	26.7	30.3	24.7	24.7	28.1
				SHC	27.8	32.0	36.1	26.3	30.3	34.3	24.7	28.5	32.4	23.1	26.7	30.3	21.3	24.7	28.1
62			TC	32.0	32.0	37.6	30.3	30.3	35.7	28.6	28.6	33.7	26.7	26.7	31.5	24.7	24.7	29.2	
			SHC	26.5	32.0	37.6	25.0	30.3	35.7	23.5	28.6	33.7	21.9	26.7	31.5	20.1	24.7	29.2	
67			TC	32.3	32.3	39.4	30.8	30.8	36.1	29.2	29.2	32.2	26.8	26.8	34.0	24.7	24.7	31.5	
			SHC	23.3	31.3	39.4	21.5	28.8	36.1	19.4	25.8	32.2	19.5	26.8	34.0	17.9	24.7	31.5	
72		TC	35.6	35.6	35.6	33.5	33.5	33.5	31.3	31.3	31.3	29.0	29.0	29.0	26.6	26.6	27.4		
		SHC	15.2	23.2	31.3	14.2	22.3	30.4	13.3	21.4	29.4	12.3	20.4	28.4	11.3	19.3	27.4		
76		TC	—	38.5	38.5	—	36.2	36.2	—	33.9	33.9	—	31.5	31.5	—	28.9	28.9		
		SHC	—	16.5	24.3	—	15.5	23.3	—	14.5	22.3	—	13.5	21.2	—	12.4	20.1		
1800 Cfm		EAT (wb)	58	TC	32.9	32.9	37.1	31.1	31.1	35.2	29.3	29.3	33.2	27.4	27.4	31.1	25.3	25.3	28.8
				SHC	28.6	32.9	37.1	27.0	31.1	35.2	25.4	29.3	33.2	23.7	27.4	31.1	21.8	25.3	28.8
	62		TC	32.9	32.9	38.6	31.2	31.2	36.6	29.3	29.3	34.5	27.4	27.4	32.4	25.3	25.3	30.0	
			SHC	27.2	32.9	38.6	25.7	31.2	36.6	24.1	29.3	34.5	22.5	27.4	32.4	20.7	25.3	30.0	
	67		TC	33.2	33.2	39.5	31.8	31.8	34.8	29.3	29.3	37.2	27.4	27.4	34.9	25.3	25.3	32.3	
			SHC	23.6	31.5	39.5	21.1	28.0	34.8	21.5	29.3	37.2	20.0	27.4	34.9	18.4	25.3	32.3	
	72	TC	35.9	35.9	35.9	33.8	33.8	33.8	31.6	31.6	31.7	29.2	29.2	30.8	26.7	26.7	29.7		
		SHC	15.7	24.7	33.7	14.8	23.7	32.7	13.8	22.8	31.7	12.9	21.8	30.8	11.8	20.8	29.7		
	76	TC	—	38.8	38.8	—	36.6	36.6	—	34.3	34.3	—	31.7	31.7	—	29.1	29.1		
		SHC	—	17.0	25.7	—	16.1	24.7	—	15.1	23.7	—	14.0	22.5	—	12.9	21.3		

**LEGEND**

- Do Not Operate
- Cfm** — Cubic Feet Per Minute (Supply Air)
- EAT (db)** — Entering Air Temperature (dry bulb)
- EAT (wb)** — Entering Air Temperature (wet bulb)
- SHC** — Sensible Heat Capacity (1000 Btuh) Gross
- TC** — Total Capacity (1000 Btuh) Gross

NOTE: See minimum-maximum airflow ratings on page 9.



### 48/50JC\*\*05 FULL SPEED (4500 COMPRESSOR RPM AND 1100 ODF RPM) COOLING CAPACITIES

48/50JC**05			AMBIENT TEMPERATURE (F)																
			85			95			105			115			125				
			EAT (db)			EAT (db)			EAT (db)			EAT (db)			EAT (db)				
			75	80	85	75	80	85	75	80	85	75	80	85	75	80	85		
1200 Cfm	EAT (wb)	58	TC	42.6	42.6	48.2	40.7	40.7	46.1	38.8	38.8	44.0	36.7	36.7	41.7	34.5	34.5	39.2	
			SHC	37.0	42.6	48.2	35.3	40.7	46.1	33.6	38.8	44.0	31.8	36.7	41.7	29.8	34.5	39.2	
		62	TC	44.8	44.8	46.0	42.4	42.4	44.7	40.0	40.0	43.4	37.4	37.4	42.0	34.7	34.7	40.4	
			SHC	33.5	39.8	46.0	32.2	38.5	44.7	30.9	37.2	43.4	29.5	35.8	42.0	28.1	34.2	40.4	
		67	TC	49.4	49.4	49.4	46.9	46.9	46.9	44.3	44.3	44.3	41.4	41.4	41.4	38.4	38.4	38.4	
			SHC	27.4	33.6	39.9	26.1	32.4	38.6	24.8	31.1	37.3	23.5	29.7	36.0	22.1	28.3	34.5	
	72	TC	54.4	54.4	54.4	51.7	51.7	51.7	48.8	48.8	48.8	45.8	45.8	45.8	42.5	42.5	42.5		
		SHC	21.2	27.4	33.6	19.9	26.1	32.4	18.6	24.8	31.0	17.3	23.5	29.7	15.9	22.1	28.3		
	76	TC	—	58.6	58.6	—	55.7	55.7	—	52.7	52.7	—	49.4	49.4	—	45.9	45.9		
		SHC	—	22.3	28.3	—	21.1	27.0	—	19.8	25.8	—	18.4	24.4	—	17.0	23.0		
	1400 Cfm	EAT (wb)	58	TC	45.0	45.0	50.9	43.1	43.1	48.7	41.0	41.0	46.4	38.7	38.7	43.9	36.3	36.3	41.2
				SHC	39.2	45.0	50.9	37.4	43.1	48.7	35.5	41.0	46.4	33.5	38.7	43.9	31.4	36.3	41.2
62			TC	46.2	46.2	50.6	43.8	43.8	49.3	41.8	41.8	46.0	39.3	39.3	44.0	36.4	36.4	42.9	
			SHC	36.3	43.5	50.6	34.9	42.1	49.3	32.7	39.3	46.0	31.0	37.5	44.0	29.8	36.4	42.9	
67			TC	50.9	50.9	50.9	48.3	48.3	48.3	45.5	45.5	45.5	42.5	42.5	42.5	39.4	39.4	39.4	
			SHC	29.2	36.4	43.6	27.9	35.1	42.3	26.6	33.8	41.0	25.2	32.4	39.6	23.7	30.9	38.1	
72		TC	56.0	56.0	56.0	53.1	53.1	53.1	50.1	50.1	50.1	46.9	46.9	46.9	43.5	43.5	43.5		
		SHC	21.9	29.1	36.3	20.7	27.8	35.0	19.3	26.5	33.6	17.9	25.1	32.2	16.5	23.6	30.8		
76		TC	—	60.2	60.2	—	57.2	57.2	—	54.0	54.0	—	50.6	50.6	—	46.9	46.9		
		SHC	—	23.2	30.1	—	21.9	28.8	—	20.6	27.5	—	19.2	26.2	—	17.7	24.7		
1600 Cfm		EAT (wb)	58	TC	47.1	47.1	53.2	45.0	45.0	50.9	42.8	42.8	48.4	40.4	40.4	45.8	37.8	37.8	42.9
				SHC	41.0	47.1	53.2	39.1	45.0	50.9	37.1	42.8	48.4	35.0	40.4	45.8	32.7	37.8	42.9
	62		TC	47.4	47.4	54.8	45.5	45.5	51.1	43.2	43.2	49.0	40.4	40.4	47.6	37.9	37.9	44.7	
			SHC	38.8	46.8	54.8	36.3	43.7	51.1	34.6	41.8	49.0	33.2	40.4	47.6	31.0	37.9	44.7	
	67		TC	52.1	52.1	52.1	49.3	49.3	49.3	46.4	46.4	46.4	43.4	43.4	43.4	40.1	40.1	41.6	
			SHC	30.8	39.0	47.2	29.5	37.7	45.9	28.2	36.4	44.5	26.8	35.0	43.1	25.4	33.5	41.6	
	72	TC	57.2	57.2	57.2	54.2	54.2	54.2	51.1	51.1	51.1	47.8	47.8	47.8	44.2	44.2	44.2		
		SHC	22.6	30.7	38.8	21.3	29.4	37.5	19.9	28.0	36.1	18.5	26.6	34.7	17.1	25.1	33.2		
	76	TC	—	61.5	61.5	—	58.3	58.3	—	55.0	55.0	—	51.5	51.5	—	47.7	47.7		
		SHC	—	23.9	31.7	—	22.6	30.5	—	21.2	29.1	—	19.9	27.7	—	18.4	26.3		
	1800 Cfm	EAT (wb)	58	TC	48.9	48.9	55.2	46.6	46.6	52.7	44.3	44.3	50.1	41.8	41.8	47.4	39.1	39.1	44.4
				SHC	42.5	48.9	55.2	40.5	46.6	52.7	38.5	44.3	50.1	36.2	41.8	47.4	33.8	39.1	44.4
62			TC	48.9	48.9	57.4	46.7	46.7	54.8	44.3	44.3	52.1	41.8	41.8	49.3	39.1	39.1	46.2	
			SHC	40.4	48.9	57.4	38.5	46.7	54.8	36.5	44.3	52.1	34.4	41.8	49.3	32.1	39.1	46.2	
67			TC	53.0	53.0	53.0	50.2	50.2	50.2	47.2	47.2	48.0	44.0	44.0	46.5	40.7	40.7	45.0	
			SHC	32.4	41.5	50.6	31.1	40.2	49.3	29.8	38.9	48.0	28.4	37.5	46.5	26.9	35.9	45.0	
72		TC	58.1	58.1	58.1	55.1	55.1	55.1	51.8	51.8	51.8	48.4	48.4	48.4	44.8	44.8	44.8		
		SHC	23.1	32.1	41.2	21.8	30.8	39.8	20.4	29.5	38.5	19.0	28.0	37.1	17.6	26.6	35.6		
76		TC	—	62.4	62.4	—	59.2	59.2	—	55.8	55.8	—	52.2	52.2	—	48.3	48.3		
		SHC	—	24.5	33.3	—	23.2	32.0	—	21.8	30.6	—	20.4	29.2	—	19.0	27.7		
2000 Cfm		EAT (wb)	58	TC	50.4	50.4	56.9	48.1	48.1	54.3	45.6	45.6	51.6	43.0	43.0	48.7	40.2	40.2	45.6
				SHC	43.9	50.4	56.9	41.8	48.1	54.3	39.6	45.6	51.6	37.3	43.0	48.7	34.8	40.2	45.6
	62		TC	50.4	50.4	59.1	48.1	48.1	56.5	45.6	45.6	53.7	43.0	43.0	50.7	40.2	40.2	47.4	
			SHC	41.7	50.4	59.1	39.7	48.1	56.5	37.6	45.6	53.7	35.4	43.0	50.7	33.0	40.2	47.4	
	67		TC	53.7	53.7	54.0	50.8	50.8	52.6	47.7	47.7	51.3	44.5	44.5	49.8	41.1	41.1	48.2	
			SHC	34.0	44.0	54.0	32.7	42.6	52.6	31.3	41.3	51.3	29.9	39.8	49.8	28.4	38.3	48.2	
	72	TC	58.9	58.9	58.9	55.8	55.8	55.8	52.5	52.5	52.5	49.0	49.0	49.0	45.3	45.3	45.3		
		SHC	23.6	33.5	43.4	22.3	32.2	42.1	20.9	30.8	40.7	19.5	29.4	39.3	18.0	27.9	37.8		
	76	TC	—	63.2	63.2	—	59.9	59.9	—	56.4	56.4	—	52.7	52.7	—	48.8	48.8		
		SHC	—	25.0	34.7	—	23.7	33.4	—	22.4	32.0	—	20.9	30.5	—	19.4	29.0		

**LEGEND**

- Do Not Operate
- Cfm** — Cubic Feet Per Minute (Supply Air)
- EAT (db)** — Entering Air Temperature (dry bulb)
- EAT (wb)** — Entering Air Temperature (wet bulb)
- SHC** — Sensible Heat Capacity (1000 Btuh) Gross
- TC** — Total Capacity (1000 Btuh) Gross

NOTE: See minimum-maximum airflow ratings on page 9.

## 48/50JC\*W05 — UNIT WITH HUMIDI-MIZER® SYSTEM IN SUBCOOLING MODE — COOLING CAPACITIES

TEMP (F) AIR ENTERING CONDENSER (Edb)		AIR ENTERING EVAPORATOR — SCFM/BF								
		1200 / 0.04			1600 / 0.07			2000 / 0.10		
		Air Entering Evaporator — Ewb (F)								
		72	67	62	72	67	62	72	67	62
75	TC	54.9	47.7	43.1	58.6	52.2	45.9	59.8	54.6	48.2
	SHC	24.1	28.4	34.7	28.2	35.4	42.7	31.0	41.2	48.2
	kW	2.69	2.68	2.70	2.67	2.69	2.71	2.64	2.69	2.68
85	TC	48.8	45.2	39.8	54.4	48.4	43.0	56.5	50.4	45.3
	SHC	18.4	26.0	31.6	24.2	31.8	39.2	27.7	37.1	45.3
	kW	2.97	3.02	3.01	3.01	3.02	3.02	3.01	3.02	3.01
95	TC	47.0	41.4	36.2	50.1	44.3	39.1	52.0	46.1	41.1
	SHC	16.5	22.3	28.1	20.1	27.8	35.4	23.4	33.0	41.1
	kW	3.35	3.34	3.31	3.36	3.35	3.33	3.35	3.35	3.33
105	TC	42.8	37.5	32.5	45.6	40.1	35.1	47.3	41.7	37.2
	SHC	12.6	18.5	24.4	15.8	23.7	31.5	18.9	28.7	37.2
	kW	3.70	3.67	3.63	3.71	3.69	3.65	3.71	3.69	3.67
115	TC	38.6	33.3	28.6	41.0	35.7	30.9	42.5	37.1	32.9
	SHC	8.5	14.5	20.7	11.4	19.4	27.5	14.3	24.2	32.9
	kW	4.06	4.01	3.96	4.08	4.04	3.99	4.08	4.05	4.01
125	TC	34.0	29.1	24.5	36.2	31.1	26.5	37.5	32.3	28.1
	SHC	4.1	10.4	16.7	6.8	15.0	23.1	9.4	19.5	28.1
	kW	4.43	4.37	4.30	4.45	4.40	4.34	4.46	4.42	4.37

## 48/50JC\*W05 — UNIT WITH HUMIDI-MIZER SYSTEM IN HOT GAS REHEAT MODE — COOLING CAPACITIES

TEMP (F) AIR ENTERING CONDENSER (Edb)		AIR ENTERING EVAPORATOR — Ewb (F)								
		75 Dry Bulb 62.5 Wet Bulb (50% Relative)			75 Dry Bulb 64 Wet Bulb (56% Relative)			75 Dry Bulb 65.3 Wet Bulb (60% Relative)		
		Air Entering Evaporator — Cfm								
		1200	1600	2000	1200	1600	2000	1200	1600	2000
80	TC	14.64	15.29	15.89	15.82	16.51	17.11	16.60	17.29	17.90
	SHC	-0.49	-2.20	-3.63	1.60	-0.60	-2.47	4.11	1.42	-0.86
	kW	2.69	2.71	2.72	2.67	2.68	2.69	2.65	2.66	2.67
75	TC	15.88	16.57	17.21	17.12	17.83	18.48	17.92	18.65	19.30
	SHC	1.08	-0.51	-1.79	3.30	1.22	-0.48	5.86	3.32	1.19
	kW	2.57	2.58	2.59	2.54	2.55	2.56	2.52	2.53	2.54
70	TC	16.57	17.27	17.90	17.72	18.54	19.19	18.65	19.37	20.01
	SHC	1.77	0.18	-1.14	3.81	1.92	0.18	6.59	4.03	1.86
	kW	2.53	2.55	2.57	2.54	2.53	2.54	2.50	2.51	2.52
60	TC	17.01	18.16	18.76	18.77	19.43	20.05	19.56	20.24	20.86
	SHC	1.72	0.71	-0.73	4.64	2.39	0.51	7.17	4.44	2.13
	kW	2.62	2.56	2.58	2.53	2.55	2.57	2.52	2.54	2.55
50	TC	18.49	19.16	19.73	19.77	20.40	20.98	20.54	21.20	21.79
	SHC	3.32	1.55	0.01	5.50	3.16	1.17	7.98	5.19	2.79
	kW	2.52	2.55	2.57	2.52	2.55	2.57	2.52	2.54	2.56
40	TC	19.45	20.07	20.61	20.66	21.28	21.84	21.42	22.05	22.62
	SHC	4.17	2.31	0.70	6.25	3.87	1.82	8.73	5.86	3.39
	kW	2.50	2.53	2.56	2.51	2.54	2.57	2.51	2.54	2.57

### LEGEND

- Edb** — Entering Dry Bulb
- Ewb** — Entering Wet Bulb
- kW** — Compressor Power Input
- SCFM/BF** — Standard Cubic Feet per Minute/Bypass Factor
- SHC** — Sensible Heat Capacity (1000 Btuh) Gross
- TC** — Total Capacity (1000 Btuh) Gross





### 48/50JC\*\*06 LOW SPEED (1900 COMPRESSOR RPM AND 800 ODF RPM) COOLING CAPACITIES

48/50JC**06			AMBIENT TEMPERATURE (F)																
			85			95			105			115			125				
			EAT (db)			EAT (db)			EAT (db)			EAT (db)			EAT (db)				
			75	80	85	75	80	85	75	80	85	75	80	85	75	80	85		
1250 Cfm	EAT (wb)	58	TC	29.4	29.4	33.2	27.9	27.9	31.6	26.3	26.3	29.8	24.6	24.6	27.9	22.8	22.8	25.9	
			SHC	25.6	29.4	33.2	24.2	27.9	31.6	22.8	26.3	29.8	21.3	24.6	27.9	19.7	22.8	25.9	
		62	TC	29.4	29.4	34.5	27.9	27.9	32.8	26.3	26.3	31.0	24.6	24.6	29.1	22.7	22.7	26.9	
			SHC	24.3	29.4	34.5	23.0	27.9	32.8	21.7	26.3	31.0	20.2	24.6	29.1	18.6	22.7	26.9	
		67	TC	30.7	30.7	33.3	28.9	28.9	32.5	27.0	27.0	31.5	24.9	24.9	30.5	23.3	23.3	26.2	
			SHC	20.4	26.9	33.3	19.6	26.0	32.5	18.7	25.1	31.5	17.7	24.1	30.5	15.5	20.8	26.2	
	72	TC	33.9	33.9	33.9	31.9	31.9	31.9	29.9	29.9	29.9	27.6	27.6	27.6	25.2	25.2	25.2		
		SHC	14.0	20.4	26.8	13.2	19.6	26.0	12.3	18.7	25.1	11.4	17.8	24.2	10.4	16.8	23.2		
	76	TC	—	36.6	36.6	—	34.5	34.5	—	32.4	32.4	—	30.0	30.0	—	27.5	27.5		
		SHC	—	15.2	21.5	—	14.3	20.6	—	13.5	19.8	—	12.5	18.9	—	11.6	17.9		
	1500 Cfm	EAT (wb)	58	TC	30.8	30.8	34.8	29.2	29.2	33.1	27.6	27.6	31.2	25.7	25.7	29.2	23.8	23.8	27.0
				SHC	26.8	30.8	34.8	25.4	29.2	33.1	23.9	27.6	31.2	22.3	25.7	29.2	20.6	23.8	27.0
62			TC	30.9	30.9	36.2	29.3	29.3	34.4	27.6	27.6	32.4	25.7	25.7	30.3	23.8	23.8	28.1	
			SHC	25.5	30.9	36.2	24.2	29.3	34.4	22.7	27.6	32.4	21.1	25.7	30.3	19.5	23.8	28.1	
67			TC	31.3	31.3	37.5	29.5	29.5	36.4	28.2	28.2	31.0	25.8	25.8	32.7	23.8	23.8	30.2	
			SHC	22.4	29.9	37.5	21.4	28.9	36.4	18.8	24.9	31.0	18.9	25.8	32.7	17.3	23.8	30.2	
72		TC	34.5	34.5	34.5	32.5	32.5	32.5	30.4	30.4	30.4	28.1	28.1	28.1	25.6	25.6	26.3		
		SHC	14.7	22.3	29.9	13.9	21.5	29.1	13.0	20.6	28.2	12.1	19.7	27.3	11.1	18.7	26.3		
76		TC	—	37.3	37.3	—	35.2	35.2	—	32.9	32.9	—	30.5	30.5	—	27.9	27.9		
		SHC	—	16.0	23.5	—	15.2	22.6	—	14.3	21.8	—	13.4	20.8	—	12.4	19.8		
1750 Cfm		EAT (wb)	58	TC	32.0	32.0	36.1	30.3	30.3	34.2	28.5	28.5	32.3	26.6	26.6	30.2	24.6	24.6	27.9
				SHC	27.8	32.0	36.1	26.3	30.3	34.2	24.8	28.5	32.3	23.1	26.6	30.2	21.2	24.6	27.9
	62		TC	32.0	32.0	37.5	30.3	30.3	35.6	28.6	28.6	33.6	26.6	26.6	31.4	24.6	24.6	29.0	
			SHC	26.5	32.0	37.5	25.0	30.3	35.6	23.5	28.6	33.6	21.9	26.6	31.4	20.1	24.6	29.0	
	67		TC	32.3	32.3	38.4	30.6	30.6	36.6	28.6	28.6	36.1	26.7	26.7	33.8	24.6	24.6	31.2	
			SHC	23.0	30.7	38.4	21.8	29.2	36.6	21.0	28.6	36.1	19.6	26.7	33.8	17.9	24.6	31.2	
	72	TC	34.9	34.9	34.9	32.9	32.9	32.9	30.7	30.7	31.2	28.4	28.4	30.3	25.8	25.8	29.3		
		SHC	15.4	24.1	32.9	14.5	23.3	32.1	13.7	22.4	31.2	12.8	21.5	30.3	11.8	20.6	29.3		
	76	TC	—	37.8	37.8	—	35.6	35.6	—	33.3	33.3	—	30.8	30.8	—	28.2	28.2		
		SHC	—	16.8	25.4	—	15.9	24.5	—	15.0	23.6	—	14.1	22.7	—	13.1	21.7		
	2000 Cfm	EAT (wb)	58	TC	32.9	32.9	37.1	31.1	31.1	35.2	29.3	29.3	33.2	27.3	27.3	31.0	25.2	25.2	28.6
				SHC	28.6	32.9	37.1	27.1	31.1	35.2	25.5	29.3	33.2	23.7	27.3	31.0	21.8	25.2	28.6
62			TC	32.9	32.9	38.6	31.2	31.2	36.6	29.3	29.3	34.5	27.3	27.3	32.2	25.2	25.2	29.7	
			SHC	27.2	32.9	38.6	25.7	31.2	36.6	24.2	29.3	34.5	22.5	27.3	32.2	20.7	25.2	29.7	
67			TC	32.9	32.9	41.4	31.2	31.2	39.3	29.3	29.3	37.1	27.4	27.4	34.6	25.2	25.2	32.0	
			SHC	24.4	32.9	41.4	23.1	31.2	39.3	21.6	29.3	37.1	20.1	27.4	34.6	18.4	25.2	32.0	
72		TC	35.3	35.3	35.8	33.2	33.2	35.0	31.0	31.0	34.1	28.6	28.6	33.2	26.0	26.0	32.2		
		SHC	16.0	25.9	35.8	15.2	25.1	35.0	14.3	24.2	34.1	13.4	23.3	33.2	12.5	22.3	32.2		
76		TC	—	38.2	38.2	—	35.9	35.9	—	33.6	33.6	—	31.1	31.1	—	28.4	28.4		
		SHC	—	17.4	27.1	—	16.6	26.2	—	15.7	25.3	—	14.7	24.4	—	13.7	23.4		
2250 Cfm		EAT (wb)	58	TC	33.6	33.6	38.0	31.8	31.8	36.0	30.0	30.0	33.9	27.9	27.9	31.6	25.7	25.7	29.1
				SHC	29.3	33.6	38.0	27.7	31.8	36.0	26.0	30.0	33.9	24.2	27.9	31.6	22.2	25.7	29.1
	62		TC	33.6	33.6	39.4	31.8	31.8	37.4	30.0	30.0	35.2	27.9	27.9	32.9	25.7	25.7	30.3	
			SHC	27.9	33.6	39.4	26.3	31.8	37.4	24.7	30.0	35.2	23.0	27.9	32.9	21.1	25.7	30.3	
	67		TC	33.7	33.7	42.3	31.9	31.9	40.2	30.0	30.0	37.8	27.9	27.9	35.3	25.7	25.7	32.6	
			SHC	25.0	33.7	42.3	23.6	31.9	40.2	22.1	30.0	37.8	20.5	27.9	35.3	18.8	25.7	32.6	
	72	TC	35.5	35.5	38.6	33.4	33.4	37.8	31.1	31.1	36.9	28.7	28.7	35.9	26.2	26.2	34.9		
		SHC	16.6	27.6	38.6	15.8	26.8	37.8	15.0	25.9	36.9	14.1	25.0	35.9	13.2	24.0	34.9		
	76	TC	—	38.5	38.5	—	36.2	36.2	—	33.8	33.8	—	31.3	31.3	—	—	—		
		SHC	—	18.0	28.7	—	17.1	27.8	—	16.2	26.9	—	15.3	26.0	—	—	—		

**LEGEND**

- Do Not Operate
- Cfm** — Cubic Feet Per Minute (Supply Air)
- EAT (db)** — Entering Air Temperature (dry bulb)
- EAT (wb)** — Entering Air Temperature (wet bulb)
- SHC** — Sensible Heat Capacity (1000 Btuh) Gross
- TC** — Total Capacity (1000 Btuh) Gross

NOTE: See minimum-maximum airflow ratings on page 9.

## 48/50JC\*\*06 INTERMEDIATE SPEED (2633 COMPRESSOR RPM AND 950 ODF RPM) COOLING CAPACITIES

48/50JC**06			AMBIENT TEMPERATURE (F)																
			85			95			105			115			125				
			EAT (db)			EAT (db)			EAT (db)			EAT (db)			EAT (db)				
			75	80	85	75	80	85	75	80	85	75	80	85	75	80	85		
1250 Cfm	EAT (wb)	58	TC	37.1	37.1	42.0	35.4	35.4	40.1	33.6	33.6	38.0	31.6	31.6	35.8	29.4	29.4	33.4	
			SHC	32.3	37.1	42.0	30.8	35.4	40.1	29.2	33.6	38.0	27.4	31.6	35.8	25.5	29.4	33.4	
		62	TC	37.3	37.3	43.3	35.7	35.7	40.7	33.6	33.6	39.6	31.6	31.6	37.3	29.5	29.5	34.8	
			SHC	30.6	37.0	43.3	28.8	34.8	40.7	27.7	33.6	39.6	26.0	31.6	37.3	24.2	29.5	34.8	
		67	TC	41.1	41.1	41.1	38.8	38.8	38.8	36.4	36.4	36.4	33.9	33.9	34.1	31.1	31.1	32.8	
			SHC	24.4	30.9	37.3	23.4	29.8	36.3	22.3	28.7	35.2	21.1	27.6	34.1	19.9	26.4	32.8	
	72	TC	45.2	45.2	45.2	42.8	42.8	42.8	40.3	40.3	40.3	37.5	37.5	37.5	34.5	34.5	34.5		
		SHC	18.0	24.4	30.8	16.9	23.4	29.8	15.8	22.3	28.7	14.7	21.1	27.5	13.5	19.9	26.3		
	76	TC	—	48.7	48.7	—	46.2	46.2	—	43.5	43.5	—	40.5	40.5	—	37.3	37.3		
		SHC	—	19.1	25.3	—	18.1	24.3	—	17.0	23.3	—	15.8	22.1	—	14.6	20.9		
	1500 Cfm	EAT (wb)	58	TC	39.3	39.3	44.4	37.5	37.5	42.4	35.5	35.5	40.2	33.3	33.3	37.8	31.0	31.0	35.2
				SHC	34.2	39.3	44.4	32.6	37.5	42.4	30.8	35.5	40.2	28.9	33.3	37.8	26.8	31.0	35.2
62			TC	39.4	39.4	46.2	37.5	37.5	44.0	35.5	35.5	41.8	33.4	33.4	39.3	31.0	31.0	36.6	
			SHC	32.6	39.4	46.2	31.0	37.5	44.0	29.3	35.5	41.8	27.5	33.4	39.3	25.5	31.0	36.6	
67			TC	42.2	42.2	42.2	39.8	39.8	40.7	37.3	37.3	39.6	34.7	34.7	38.4	31.8	31.8	37.1	
			SHC	26.5	34.1	41.8	25.4	33.1	40.7	24.3	32.0	39.6	23.1	30.8	38.4	21.9	29.5	37.1	
72		TC	46.4	46.4	46.4	43.9	43.9	43.9	41.2	41.2	41.2	38.3	38.3	38.3	35.2	35.2	35.2		
		SHC	18.7	26.3	34.0	17.7	25.3	32.9	16.6	24.2	31.8	15.4	23.0	30.6	14.2	21.8	29.4		
76		TC	—	49.9	49.9	—	47.4	47.4	—	44.5	44.5	—	41.4	41.4	—	38.1	38.1		
		SHC	—	20.0	27.4	—	19.0	26.4	—	17.9	25.3	—	16.7	24.2	—	15.5	22.9		
1750 Cfm		EAT (wb)	58	TC	41.1	41.1	46.4	39.1	39.1	44.2	37.0	37.0	41.8	34.7	34.7	39.3	32.2	32.2	36.5
				SHC	35.8	41.1	46.4	34.0	39.1	44.2	32.1	37.0	41.8	30.2	34.7	39.3	27.9	32.2	36.5
	62		TC	41.1	41.1	48.2	39.1	39.1	45.9	37.0	37.0	43.5	34.8	34.8	40.9	32.3	32.3	38.0	
			SHC	34.0	41.1	48.2	32.3	39.1	45.9	30.5	37.0	43.5	28.7	34.8	40.9	26.5	32.3	38.0	
	67		TC	43.0	43.0	46.1	40.5	40.5	44.9	38	38.0	43.7	35.3	35.3	42.4	32.6	32.6	39.2	
			SHC	28.4	37.2	46.1	27.3	36.1	44.9	26.2	35.0	43.7	25.0	33.7	42.4	23.0	31.1	39.2	
	72	TC	47.2	47.2	47.2	44.7	44.7	44.7	41.9	41.9	41.9	38.9	38.9	38.9	35.7	35.7	35.7		
		SHC	19.4	28.2	36.9	18.4	27.1	35.9	17.2	26.0	34.8	16.1	24.8	33.6	14.8	23.6	32.4		
	76	TC	—	50.8	50.8	—	48.2	48.2	—	45.2	45.2	—	42.1	42.1	—	38.6	38.6		
		SHC	—	20.8	29.3	—	19.8	28.3	—	18.6	27.2	—	17.5	26.1	—	16.2	24.8		
	2000 Cfm	EAT (wb)	58	TC	42.4	42.4	47.9	40.4	40.4	45.6	38.2	38.2	43.2	35.8	35.8	40.5	33.2	33.2	37.6
				SHC	37.0	42.4	47.9	35.2	40.4	45.6	33.2	38.2	43.2	31.1	35.8	40.5	28.8	33.2	37.6
62			TC	42.5	42.5	49.8	40.4	40.4	47.4	38.2	38.2	44.9	35.9	35.9	42.2	33.3	33.3	39.2	
			SHC	35.2	42.5	49.8	33.4	40.4	47.4	31.6	38.2	44.9	29.6	35.9	42.2	27.4	33.3	39.2	
67			TC	43.6	43.6	50.1	41.1	41.1	48.8	38.5	38.5	47.4	36.2	36.2	43.2	33.6	33.6	39.8	
			SHC	30.3	40.2	50.1	29.2	39.0	48.8	27.9	37.7	47.4	25.5	34.4	43.2	23.5	31.7	39.8	
72		TC	47.8	47.8	47.8	45.2	45.2	45.2	42.4	42.4	42.4	39.4	39.4	39.4	36.1	36.1	36.1		
		SHC	20.0	29.9	39.8	18.9	28.8	38.7	17.8	27.7	37.6	16.7	26.6	36.5	15.5	25.4	35.2		
76		TC	—	51.5	51.5	—	48.8	48.8	—	45.8	45.8	—	42.6	42.6	—	39.0	39.0		
		SHC	—	21.4	31.1	—	20.4	30.1	—	19.3	29.0	—	18.1	27.8	—	16.8	26.5		
2250 Cfm		EAT (wb)	58	TC	43.7	43.7	49.3	41.5	41.5	46.9	39.2	39.2	44.3	36.7	36.7	41.6	34.0	34.0	38.6
				SHC	38.0	43.7	49.3	36.1	41.5	46.9	34.1	39.2	44.3	31.9	36.7	41.6	29.5	34.0	38.6
	62		TC	43.7	43.7	51.2	41.6	41.6	48.7	39.3	39.3	46.1	36.8	36.8	43.2	34.1	34.1	40.1	
			SHC	36.2	43.7	51.2	34.4	41.6	48.7	32.4	39.3	46.1	30.3	36.8	43.2	28.0	34.1	40.1	
	67		TC	44.1	44.1	53.7	42.4	42.4	46.2	39.6	39.6	47.0	37.0	37.0	45.0	34.1	34.1	43.2	
			SHC	32.0	42.9	53.7	28.2	37.2	46.2	28.0	37.5	47.0	26.5	35.8	45.0	25.0	34.1	43.2	
	72	TC	48.3	48.3	48.3	45.6	45.6	45.6	42.7	42.7	42.7	39.7	39.7	39.7	36.4	36.4	38.0		
		SHC	20.5	31.5	42.5	19.5	30.5	41.4	18.4	29.4	40.4	17.2	28.2	39.2	16.1	27.0	38.0		
	76	TC	—	52.0	52.0	—	49.2	49.2	—	46.2	46.2	—	42.9	42.9	—	39.3	39.3		
		SHC	—	22.0	32.7	—	20.9	31.7	—	19.8	30.5	—	18.6	29.4	—	17.4	28.1		

### LEGEND

- Do Not Operate
- Cfm — Cubic Feet Per Minute (Supply Air)
- EAT (db) — Entering Air Temperature (dry bulb)
- EAT (wb) — Entering Air Temperature (wet bulb)
- SHC — Sensible Heat Capacity (1000 Btuh) Gross
- TC — Total Capacity (1000 Btuh) Gross

NOTE: See minimum-maximum airflow ratings on page 9.



### 48/50JC\*\*06 FULL SPEED (4100 COMPRESSOR RPM AND 1100 ODF RPM) COOLING CAPACITIES

48/50JC**06				AMBIENT TEMPERATURE (F)															
				85			95			105			115			125			
				EAT (db)			EAT (db)			EAT (db)			EAT (db)			EAT (db)			
				75	80	85	75	80	85	75	80	85	75	80	85	75	80	85	
1500 Cfm	EAT (wb)	58	TC	52.0	52.0	58.8	49.9	49.9	56.4	47.5	47.5	53.8	45.0	45.0	50.9	42.2	42.2	47.8	
			SHC	45.3	52.0	58.8	43.4	49.9	56.4	41.3	47.5	53.8	39.1	45.0	50.9	36.6	42.2	47.8	
		62	TC	54.5	54.5	56.5	51.7	51.7	55.1	48.8	48.8	53.5	45.7	45.7	51.8	42.3	42.3	49.8	
			SHC	41.2	48.9	56.5	39.8	47.4	55.1	38.2	45.9	53.5	36.6	44.2	51.8	34.8	42.3	49.8	
		67	TC	59.9	59.9	59.9	57.0	57.0	57.0	53.8	53.8	53.8	50.3	50.3	50.3	46.6	46.6	46.6	
			SHC	33.6	41.2	48.9	32.2	39.8	47.5	30.7	38.3	46.0	29.1	36.8	44.4	27.5	35.1	42.8	
	72	TC	65.8	65.8	65.8	62.5	62.5	62.5	59.1	59.1	59.1	55.3	55.3	55.3	51.2	51.2	51.2		
		SHC	25.8	33.4	41.0	24.4	32.0	39.6	22.9	30.5	38.1	21.4	29.0	36.6	19.7	27.3	34.9		
	76	TC	—	70.7	70.7	—	67.3	67.3	—	63.6	63.6	—	59.5	59.5	—	55.2	55.2		
		SHC	—	27.0	34.2	—	25.6	32.9	—	24.2	31.5	—	22.6	30.0	—	21.0	28.4		
	1750 Cfm	EAT (wb)	58	TC	54.9	54.9	61.9	52.5	52.5	59.4	50.0	50.0	56.6	47.3	47.3	53.5	44.3	44.3	50.2
				SHC	47.8	54.9	61.9	45.7	52.5	59.4	43.5	50.0	56.6	41.1	47.3	53.5	38.4	44.3	50.2
62			TC	56.1	56.1	62.0	53.3	53.3	60.4	50.7	50.7	56.7	47.9	47.9	53.2	44.3	44.3	52.2	
			SHC	44.4	53.2	62.0	42.9	51.6	60.4	40.3	48.5	56.7	37.8	45.5	53.2	36.5	44.3	52.2	
67			TC	61.6	61.6	61.6	58.5	58.5	58.5	55.1	55.1	55.1	51.5	51.5	51.5	47.6	47.6	47.6	
			SHC	35.6	44.5	53.3	34.2	43.0	51.8	32.7	41.5	50.4	31.1	40.0	48.8	29.5	38.3	47.1	
72		TC	67.5	67.5	67.5	64.1	64.1	64.1	60.5	60.5	60.5	56.6	56.6	56.6	52.3	52.3	52.3		
		SHC	26.6	35.3	44.1	25.2	33.9	42.7	23.7	32.4	41.2	22.1	30.8	39.6	20.4	29.2	37.9		
76		TC	—	72.5	72.5	—	68.9	68.9	—	65.0	65.0	—	60.8	60.8	—	56.3	56.3		
		SHC	—	27.9	36.3	—	26.5	35.0	—	25.0	33.5	—	23.4	32.0	—	21.8	30.3		
2000 Cfm		EAT (wb)	58	TC	57.2	57.2	64.6	54.7	54.7	61.8	52.1	52.1	58.9	49.2	49.2	55.6	46.0	46.0	52.1
				SHC	49.9	57.2	64.6	47.7	54.7	61.8	45.3	52.1	58.9	42.7	49.2	55.6	39.9	46.0	52.1
	62		TC	58.3	58.3	63.0	55.7	55.7	60.1	52.6	52.6	59.2	49.2	49.2	57.8	46.0	46.0	54.2	
			SHC	45.4	54.2	63.0	43.3	51.7	60.1	42.1	50.7	59.2	40.6	49.2	57.8	37.9	46.0	54.2	
	67		TC	62.9	62.9	62.9	59.7	59.7	59.7	56.2	56.2	56.2	52.4	52.4	52.9	48.4	48.4	51.2	
			SHC	37.6	47.5	57.5	36.1	46.1	56.0	34.6	44.6	54.5	33.0	43.0	52.9	31.4	41.3	51.2	
	72	TC	68.9	68.9	68.9	65.4	65.4	65.4	61.6	61.6	61.6	57.5	57.5	57.5	53.1	53.1	53.1		
		SHC	27.2	37.1	47.0	25.8	35.7	45.6	24.3	34.2	44.0	22.7	32.6	42.5	21.0	30.9	40.8		
	76	TC	—	73.9	73.9	—	70.2	70.2	—	66.1	66.1	—	61.8	61.8	—	57.1	57.1		
		SHC	—	28.6	38.2	—	27.2	36.8	—	25.7	35.3	—	24.1	33.8	—	22.4	32.1		
	2250 Cfm	EAT (wb)	58	TC	59.2	59.2	66.8	56.6	56.6	63.9	53.8	53.8	60.8	50.8	50.8	57.4	47.4	47.4	53.7
				SHC	51.6	59.2	66.8	49.3	56.6	63.9	46.8	53.8	60.8	44.1	50.8	57.4	41.2	47.4	53.7
62			TC	59.9	59.9	66.5	56.7	56.7	66.4	53.9	53.9	63.2	50.8	50.8	59.7	47.5	47.5	55.8	
			SHC	47.6	57.1	66.5	46.9	56.7	66.4	44.5	53.9	63.2	41.9	50.8	59.7	39.1	47.5	55.8	
67			TC	63.9	63.9	63.9	60.6	60.6	60.6	57.0	57.0	58.6	53.1	53.1	57.0	49.0	49.0	55.2	
			SHC	39.4	50.5	61.5	38.0	49.0	60.1	36.5	47.5	58.6	34.9	45.9	57.0	33.2	44.2	55.2	
72		TC	69.9	69.9	69.9	66.3	66.3	66.3	62.4	62.4	62.4	58.2	58.2	58.2	53.7	53.7	53.7		
		SHC	27.7	38.7	49.7	26.3	37.3	48.3	24.8	35.8	46.7	23.2	34.2	45.1	21.5	32.5	43.5		
76		TC	—	75.0	75.0	—	71.1	71.1	—	67.0	67.0	—	62.5	62.5	—	57.8	57.8		
		SHC	—	29.2	39.9	—	27.8	38.4	—	26.2	36.9	—	24.6	35.4	—	22.9	33.7		
2500 Cfm		EAT (wb)	58	TC	61.0	61.0	68.8	58.2	58.2	65.7	55.3	55.3	62.5	52.1	52.1	58.9	48.6	48.6	55.0
				SHC	53.1	61.0	68.8	50.7	58.2	65.7	48.1	55.3	62.5	45.3	52.1	58.9	42.2	48.6	55.0
	62		TC	61.0	61.0	71.5	58.3	58.3	68.3	55.3	55.3	64.9	52.1	52.1	61.2	48.7	48.7	57.2	
			SHC	50.6	61.0	71.5	48.2	58.3	68.3	45.8	55.3	64.9	43.1	52.1	61.2	40.1	48.7	57.2	
	67		TC	64.7	64.7	65.5	61.3	61.3	64.0	57.6	57.6	62.5	53.7	53.7	60.8	49.5	49.5	58.8	
			SHC	41.2	53.3	65.5	39.7	51.9	64.0	38.2	50.3	62.5	36.6	48.7	60.8	34.9	46.9	58.8	
	72	TC	70.8	70.8	70.8	67.1	67.1	67.1	63.1	63.1	63.1	58.8	58.8	58.8	54.2	54.2	54.2		
		SHC	28.1	40.2	52.3	26.7	38.8	50.8	25.2	37.3	49.3	23.6	35.7	47.7	21.9	34.0	46.0		
	76	TC	—	75.8	75.8	—	71.9	71.9	—	67.7	67.7	—	63.2	63.2	—	58.3	58.3		
		SHC	—	29.6	41.3	—	28.2	39.9	—	26.6	38.4	—	25.0	36.8	—	23.3	35.1		

**LEGEND**

- Do Not Operate
- Cfm** — Cubic Feet Per Minute (Supply Air)
- EAT (db)** — Entering Air Temperature (dry bulb)
- EAT (wb)** — Entering Air Temperature (wet bulb)
- SHC** — Sensible Heat Capacity (1000 Btuh) Gross
- TC** — Total Capacity (1000 Btuh) Gross

NOTE: See minimum-maximum airflow ratings on page 9.

## 48/50JC\*W06 — UNIT WITH HUMIDI-MIZER® SYSTEM IN SUBCOOLING MODE — COOLING CAPACITIES

TEMP (F) AIR ENTERING CONDENSER (Edb)		AIR ENTERING EVAPORATOR — SCFM/BF								
		1500 / 0.01			2000 / 0.02			2500 / 0.03		
		Air Entering Evaporator — Ewb (F)								
		72	67	62	72	67	62	72	67	62
75	TC	66.0	58.1	50.8	70.1	62.0	54.6	71.9	63.7	57.0
	SHC	28.7	34.8	40.9	33.3	41.7	50.0	36.7	47.4	57.0
	kW	3.38	3.33	3.28	3.63	3.58	3.52	4.01	3.94	3.85
85	TC	60.6	52.8	45.8	64.3	56.4	49.3	65.9	58.0	51.5
	SHC	23.6	29.8	36.2	27.9	36.4	44.9	31.1	41.9	51.5
	kW	3.79	3.72	3.66	4.06	3.99	3.91	4.44	4.37	4.24
95	TC	55.0	47.7	40.8	58.3	50.8	43.9	59.6	52.1	46.0
	SHC	18.4	24.9	31.4	22.3	31.1	39.7	25.2	36.4	46.0
	kW	4.22	4.14	4.06	4.50	4.42	4.32	4.88	4.80	4.66
105	TC	49.5	42.2	35.7	51.9	45.1	38.5	53.1	46.1	40.4
	SHC	13.2	19.7	26.5	16.3	25.7	34.5	19.1	30.7	40.4
	kW	4.67	4.56	4.46	4.92	4.85	4.74	5.33	5.24	5.08
115	TC	43.7	36.8	30.5	46.1	39.2	32.9	47.0	40.0	34.6
	SHC	7.8	14.6	21.5	10.9	20.1	29.2	13.3	24.9	34.6
	kW	5.11	5.00	4.88	5.40	5.28	5.16	5.80	5.68	5.51
125	TC	37.7	31.1	25.1	39.7	33.1	27.1	40.3	33.6	28.6
	SHC	2.3	9.3	16.3	5.0	14.4	23.6	7.1	18.8	28.6
	kW	5.56	5.43	5.29	5.85	5.72	5.58	6.26	6.12	5.94

## 48/50JC\*W06 — UNIT WITH HUMIDI-MIZER SYSTEM IN HOT GAS REHEAT MODE — COOLING CAPACITIES

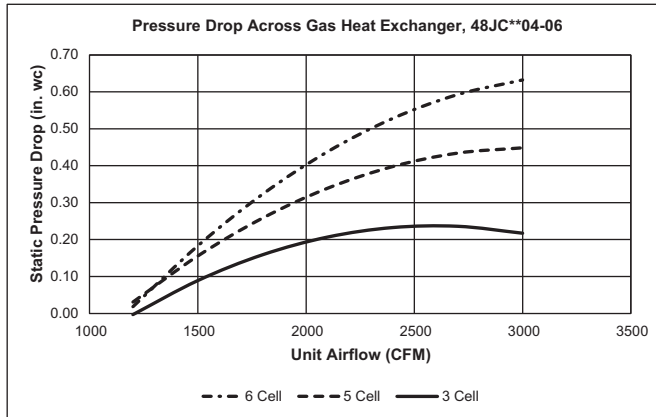
TEMP (F) AIR ENTERING CONDENSER (Edb)		AIR ENTERING EVAPORATOR — Ewb (F)								
		75 Dry Bulb 62.5 Wet Bulb (50% Relative)			75 Dry Bulb 64 Wet Bulb (56% Relative)			75 Dry Bulb 65.3 Wet Bulb (60% Relative)		
		Air Entering Evaporator — Cfm								
		1500	2000	2500	1500	2000	2500	1500	2000	2500
80	TC	20.02	20.79	21.46	21.28	22.05	22.73	22.07	22.84	23.52
	SHC	3.26	0.76	-1.39	6.79	3.60	0.89	10.38	6.56	3.30
	kW	2.90	2.93	2.96	2.89	2.92	2.94	2.87	2.90	2.92
75	TC	21.58	22.37	23.06	22.88	23.68	24.35	23.69	24.49	25.18
	SHC	5.31	2.91	0.85	8.94	5.90	3.25	12.59	8.93	5.77
	kW	2.75	2.79	2.82	2.74	2.77	2.80	2.73	2.76	2.78
70	TC	22.38	23.16	23.84	23.70	24.48	25.16	24.52	25.31	25.99
	SHC	6.05	3.61	1.51	9.70	6.59	3.93	13.36	9.63	6.43
	kW	2.73	2.77	2.80	2.72	2.75	2.79	2.71	2.74	2.77
60	TC	24.57	25.34	25.98	25.94	26.71	27.37	26.78	27.56	28.22
	SHC	8.68	6.23	4.06	12.45	9.35	6.67	16.18	12.48	9.25
	kW	2.60	2.64	2.69	2.59	2.63	2.67	2.58	2.62	2.66
50	TC	25.50	26.28	26.96	26.77	27.61	28.29	27.56	28.39	29.11
	SHC	8.95	6.42	4.24	12.43	9.32	6.57	15.97	12.20	8.96
	kW	2.63	2.67	2.71	2.65	2.68	2.72	2.66	2.69	2.72
40	TC	27.08	27.92	28.62	28.36	29.15	29.88	29.13	29.93	30.64
	SHC	10.50	8.04	5.86	13.96	10.73	8.02	17.45	13.60	10.29
	kW	2.57	2.61	2.65	2.60	2.64	2.67	2.62	2.66	2.69

### LEGEND

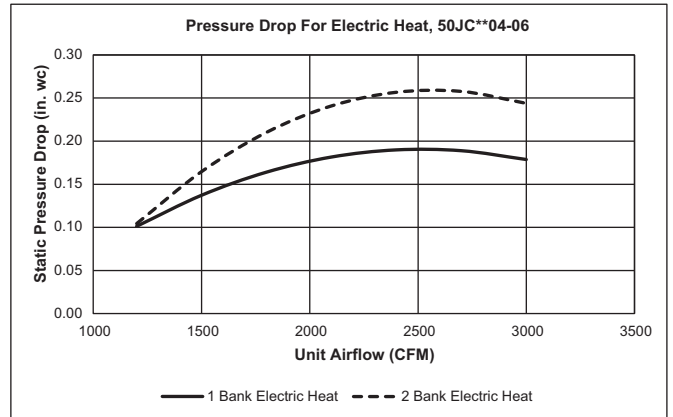
- Edb** — Entering Dry Bulb
- Ewb** — Entering Wet Bulb
- kW** — Compressor Power Input
- SCFM/BF** — Standard Cubic Feet per Minute/Bypass Factor
- SHC** — Sensible Heat Capacity (1000 Btuh) Gross
- TC** — Total Capacity (1000 Btuh) Gross

## PRESSURE DROPS FOR GAS AND ELECTRIC HEATING UNITS

### PRESSURE DROP ACROSS GAS HEAT EXCHANGER



### PRESSURE DROP FOR ELECTRIC HEAT



### GAS HEAT STAGES

UNIT SIZE	HEAT SIZE		
3 Phase	Low	Med	High
04	2	2	—
05	2	2	2
06	2	2	2

### STATIC PRESSURE DEDUCTIONS

CFM	1200	1500	1800	2100	2400	2700	3000
6 to 5 Cell	0.01	0.05	0.08	0.12	0.15	0.18	0.20
6 to 3 Cell	0.03	0.10	0.17	0.23	0.29	0.36	0.42
6 to 0 Cell	0.02	0.18	0.32	0.44	0.53	0.59	0.63

### STATIC PRESSURE ADDERS

CFM	1200	1500	1800	2100	2400	2700	3000
1 Bank Electric Heater Adder, SP in. wg	0.10	0.14	0.16	0.18	0.19	0.19	0.18
2 Bank Electric Heater Adder, SP in. wg	0.10	0.16	0.21	0.24	0.26	0.26	0.24

### PRESSURE DROP FOR GAS HEAT EXCHANGER

CFM	1200	1500	1800	2100	2400	2700	3000
3 Cell	0.00	0.09	0.16	0.21	0.23	0.24	0.22
5 Cell	0.03	0.16	0.26	0.34	0.40	0.43	0.45
6 Cell	0.02	0.18	0.32	0.44	0.53	0.59	0.63

## FACTORY-INSTALLED ELECTRIC HEAT STAGES FOR 50JC 208/230-3-60 VOLTAGE UNITS

UNIT SIZE	HEAT SIZE		
	Low	Medium	High
04	1	1	1
05	1	1	2
06	1	2	2

## FACTORY-INSTALLED ELECTRIC HEAT STAGES FOR 50JC 460-3-60 VOLTAGE UNITS

UNIT SIZE	HEAT SIZE		
	Low	Medium	High
04	1	1	1
05	1	1	1
06	1	1	2

## FACTORY-INSTALLED ELECTRIC HEATER STAGING DATA FOR 50JC UNITS

UNIT	VOLT-PH-HZ	HEAT SIZE	FIOP HEATER NO.	NOMINAL kW	STAGES
50JC**04	208/230-3-60	Low	CRHEATER323A00	4.4	1
		Medium	CRHEATER326A00	10.5	1
		High	CRHEATER328A00	15.5	1
	460-3-60	Low	CRHEATER333A00	6.0	1
		Medium	CRHEATER335A00	11.5	1
		High	CRHEATER336A00	14.0	1
50JC**05	208/230-3-60	Low	CRHEATER323A00	4.4	1
		Medium	CRHEATER326A00	10.5	1
		High	CRHEATER328A00	15.5	1
	460-3-60	Low	CRHEATER333A00	6.0	1
		Medium	CRHEATER335A00	11.5	1
		High	CRHEATER336A00	14.0	1
50JC**06	208/230-3-60	Low	CRHEATER324A00	6.5	1
		Medium	CRHEATER328A00	15.5	1
		High	CRHEATER332A00	24.5	2
	460-3-60	Low	CRHEATER333A00	6.0	1
		Medium	CRHEATER335A00	11.5	1
		High	CRHEATER338A00	24.0	2

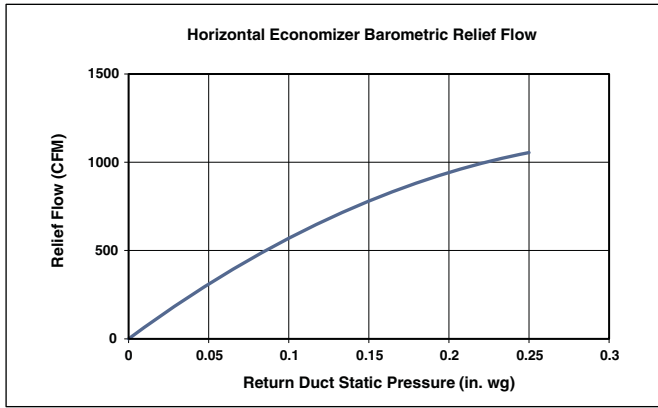
**FIELD-INSTALLED ACCESSORY ELECTRIC HEATER DATA**

50JC UNIT SIZE	VOLTAGE	HEATER MODEL NUMBER*	NUMBER OF STAGES
04	208/230	CRHEATER323A00	1
		CRHEATER324A00	1
		CRHEATER325A00	1
		CRHEATER326A00	1
		CRHEATER328A00	1
	460	CRHEATER333A00	1
		CRHEATER334A00	1
		CRHEATER335A00	1
		CRHEATER336A00	1
	575	CRHEATER339A00	1
		CRHEATER340A00	1
	05	208/230	CRHEATER323A00
CRHEATER324A00			1
CRHEATER325A00			1
CRHEATER328A00			1
CRHEATER329A00			2
CRHEATER330A00			2
CRHEATER331A00			2
460		CRHEATER333A00	1
		CRHEATER335A00	1
		CRHEATER336A00	1
		CRHEATER337A00	2
575		CRHEATER339A00	1
		CRHEATER340A00	1
06		208/230	CRHEATER324A00
	CRHEATER326A00		1
	CRHEATER328A00		1
	CRHEATER331A00		2
	CRHEATER332A00		2
	460	CRHEATER333A00	1
		CRHEATER335A00	1
		CRHEATER336A00	1
		CRHEATER337A00	2
	575	CRHEATER338A00	2
		CRHEATER340A00	1
		CRHEATER341A00	2

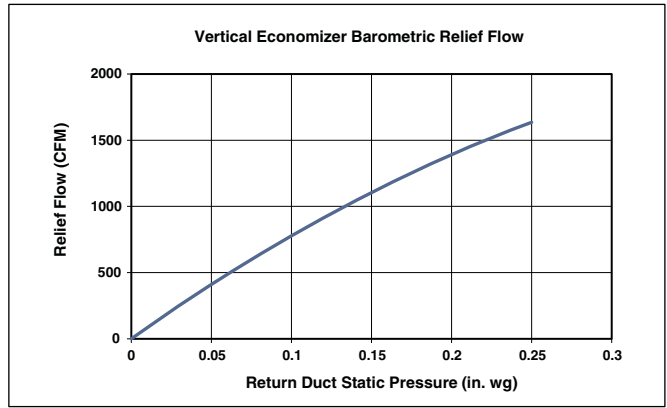
\*Check heater nameplate for model number.

## ECONOMIZER BAROMETRIC RELIEF AND STATIC PRESSURE

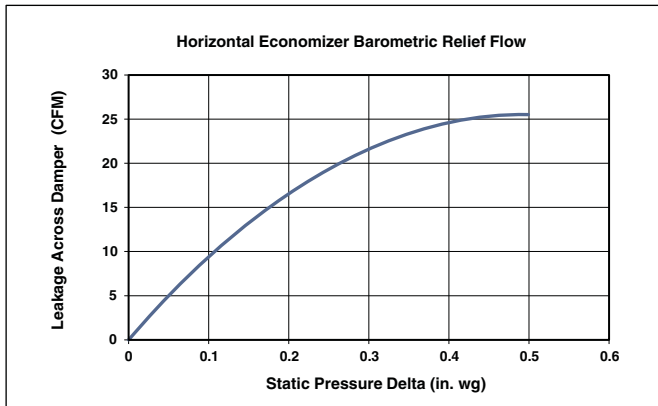
### HORIZONTAL ECONOMIZER BAROMETRIC RELIEF



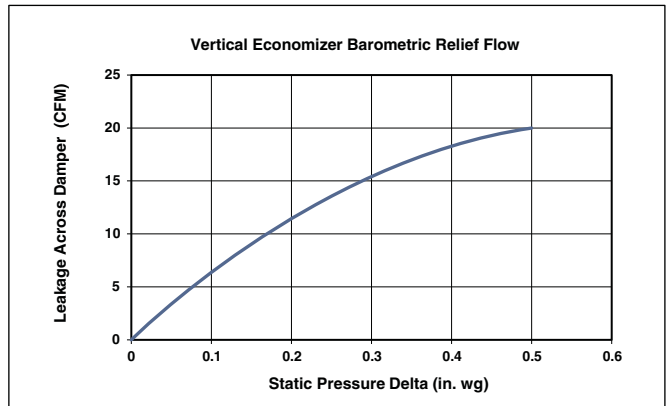
### VERTICAL ECONOMIZER BAROMETRIC RELIEF



### HORIZONTAL ECONOMIZER DAMPER LEAKAGE

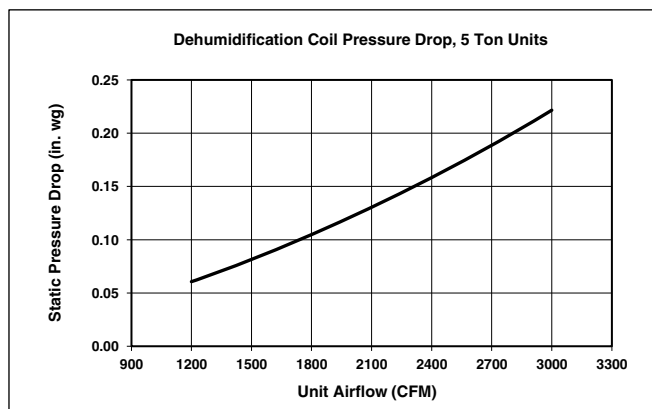
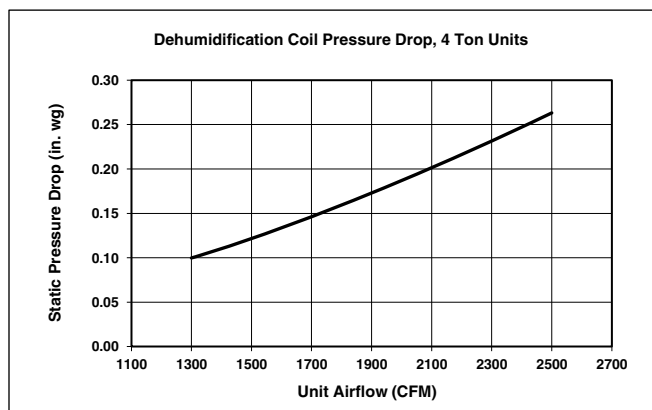
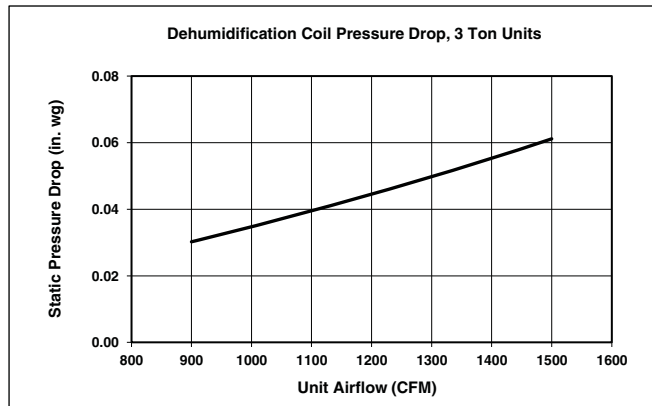


### VERTICAL ECONOMIZER DAMPER LEAKAGE





### HUMIDI-MIZER® COIL PRESSURE DROPS



### MERV-8 filters pressure drop

NOTE: For factory-installed MERV-8 filters, no additional pressure drop adjustments are necessary. The standard fan tables accommodate usage.

## GENERAL FAN PERFORMANCE NOTES

1. Interpolation is permissible. Do not extrapolate.
2. External static pressure is the static pressure difference between the return duct and the supply duct plus the static pressure caused by any FIOPs or accessories.
3. Tabular data accounts for pressure loss due to clean filters, unit casing, wet coils, and highest gas heat exchanger (when gas heat unit).
4. Factory options and accessories may effect static pressure losses. Gas heat unit fan tables assume highest gas heat models; for fan selections with low or medium heat models, the user must deduct low and medium heat static pressures. Selection software is available, through your salesperson, to help you select the best motor/drive combination for your application.
5. The fan performance tables offer motor/drive recommendations. In cases when two motor/drive combinations would work, Carrier recommends the lower horsepower option.
6. For information on the electrical properties of Carrier motors, please see the Electrical Data section of this book.
7. For more information on the performance limits of Carrier motors, see the Application Data section of this book.
8. The EPACT (Energy Policy Act of 1992) regulates energy requirements for specific types of indoor fan motors. Motors regulated by EPACT include any general purpose, T-frame (three-digit, 143 and larger), single-speed, foot mounted, polyphase, squirrel cage induction motors of NEMA (National Electrical Manufacturers Association) design A and B, manufactured for use in the United States. Ranging from 1 to 200 Hp, these continuous-duty motors operate on 230 and 460 volt, 60 Hz power. If a motor does not fit into these specifications, the motor does not have to be replaced by an EPACT compliant energy-efficient motor. Variable-speed motors are exempt from EPACT compliance requirements.

### 48JC\*\*04 THREE PHASE — 3 TON VERTICAL SUPPLY (RPM - BHP)

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
900	1092	0.09	1317	0.16	1503	0.24	1666	0.32	1812	0.41
975	1140	0.10	1361	0.18	1543	0.26	1703	0.34	1847	0.44
1050	1190	0.12	1405	0.19	1584	0.28	1741	0.37	1884	0.47
1125	1241	0.13	1450	0.21	1626	0.30	1781	0.39	1922	0.49
1200	1294	0.15	1497	0.23	1670	0.32	1822	0.42	1961	0.53
1275	1348	0.17	1544	0.26	1714	0.35	1864	0.45	2001	0.56
1350	1404	0.19	1593	0.28	1759	0.38	1907	0.48	2042	0.59
1425	1460	0.22	1642	0.31	1805	0.41	1951	0.52	2084	0.63
1500	1517	0.24	1693	0.34	1852	0.44	1996	0.55	2127	0.67

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
900	1947	0.51	2072	0.62	2190	0.73	2301	0.85	2406	0.97
975	1980	0.54	2104	0.65	2221	0.76	2331	0.88	2436	1.01
1050	2015	0.57	2138	0.68	2253	0.80	2362	0.92	2466	1.04
1125	2051	0.60	2172	0.71	2286	0.83	2395	0.96	—	—
1200	2088	0.63	2208	0.75	2321	0.87	2428	1.00	—	—
1275	2127	0.67	2245	0.79	2357	0.91	2463	1.04	—	—
1350	2167	0.71	2283	0.83	2394	0.96	—	—	—	—
1425	2207	0.75	2323	0.87	2432	1.00	—	—	—	—
1500	2249	0.79	2363	0.92	2471	1.05	—	—	—	—

- Standard Static 1092-1890 RPM, 0.44 Max BHP
- Medium Static 1092-2190 RPM, 0.71 Max BHP
- High Static 1092-2490 RPM, 1.07 Max BHP

NOTE: Fan tables include highest gas heat. Utilize static pressure gain tables for lower gas heat capacities.

### 48JC\*\*04 THREE PHASE - STANDARD STATIC — 3 TON VERTICAL SUPPLY (RPM - VDC)

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc
900	1092	5.8	1317	7.0	1503	8.0	1666	8.8	1812	9.6
975	1140	6.0	1361	7.2	1543	8.2	1703	9.0	1847	9.8
1050	1190	6.3	1405	7.4	1584	8.4	1741	9.2	1884	10.0
1125	1241	6.6	1450	7.7	1626	8.6	1781	9.4	—	—
1200	1294	6.8	1497	7.9	1670	8.8	1822	9.6	—	—
1275	1348	7.1	1544	8.2	1714	9.1	1864	9.9	—	—
1350	1404	7.4	1593	8.4	1759	9.3	—	—	—	—
1425	1460	7.7	1642	8.7	1805	9.6	—	—	—	—
1500	1517	8.0	1693	9.0	1852	9.8	—	—	—	—

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc
900	—	—	—	—	—	—	—	—	—	—
975	—	—	—	—	—	—	—	—	—	—
1050	—	—	—	—	—	—	—	—	—	—
1125	—	—	—	—	—	—	—	—	—	—
1200	—	—	—	—	—	—	—	—	—	—
1275	—	—	—	—	—	—	—	—	—	—
1350	—	—	—	—	—	—	—	—	—	—
1425	—	—	—	—	—	—	—	—	—	—
1500	—	—	—	—	—	—	—	—	—	—

- Standard Static 1092-1890 RPM

NOTE: Fan tables include highest gas heat. Utilize static pressure gain tables for lower gas heat capacities.

## 48JC\*\*04 THREE PHASE - MEDIUM STATIC — 3 TON VERTICAL SUPPLY (RPM - VDC)

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc
900	1092	5.0	1317	6.0	1503	6.9	1666	7.6	1812	8.3
975	1140	5.2	1361	6.2	1543	7.0	1703	7.8	1847	8.4
1050	1190	5.4	1405	6.4	1584	7.2	1741	7.9	1884	8.6
1125	1241	5.7	1450	6.6	1626	7.4	1781	8.1	1922	8.8
1200	1294	5.9	1497	6.8	1670	7.6	1822	8.3	1961	9.0
1275	1348	6.2	1544	7.1	1714	7.8	1864	8.5	2001	9.1
1350	1404	6.4	1593	7.3	1759	8.0	1907	8.7	2042	9.3
1425	1460	6.7	1642	7.5	1805	8.2	1951	8.9	2084	9.5
1500	1517	6.9	1693	7.7	1852	8.5	1996	9.1	2127	9.7

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc
900	1947	8.9	2072	9.5	2190	10.0	—	—	—	—
975	1980	9.0	2104	9.6	—	—	—	—	—	—
1050	2015	9.2	2138	9.8	—	—	—	—	—	—
1125	2051	9.4	2172	9.9	—	—	—	—	—	—
1200	2088	9.5	—	—	—	—	—	—	—	—
1275	2127	9.7	—	—	—	—	—	—	—	—
1350	2167	9.9	—	—	—	—	—	—	—	—
1425	—	—	—	—	—	—	—	—	—	—
1500	—	—	—	—	—	—	—	—	—	—

Medium Static 1092-2190 RPM

NOTE: Fan tables include highest gas heat. Utilize static pressure gain tables for lower gas heat capacities.

## 48JC\*\*04 THREE PHASE - HIGH STATIC — 3 TON VERTICAL SUPPLY (RPM - VDC)

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc
900	1092	4.4	1317	5.3	1503	6.0	1666	6.7	1812	7.3
975	1140	4.6	1361	5.5	1543	6.2	1703	6.8	1847	7.4
1050	1190	4.8	1405	5.6	1584	6.4	1741	7.0	1884	7.6
1125	1241	5.0	1450	5.8	1626	6.5	1781	7.2	1922	7.7
1200	1294	5.2	1497	6.0	1670	6.7	1822	7.3	1961	7.9
1275	1348	5.4	1544	6.2	1714	6.9	1864	7.5	2001	8.0
1350	1404	5.6	1593	6.4	1759	7.1	1907	7.7	2042	8.2
1425	1460	5.9	1642	6.6	1805	7.2	1951	7.8	2084	8.4
1500	1517	6.1	1693	6.8	1852	7.4	1996	8.0	2127	8.5

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc
900	1947	7.8	2072	8.3	2190	8.8	2301	9.2	2406	9.7
975	1980	8.0	2104	8.4	2221	8.9	2331	9.4	2436	9.8
1050	2015	8.1	2138	8.6	2253	9.0	2362	9.5	2466	9.9
1125	2051	8.2	2172	8.7	2286	9.2	2395	9.6	—	—
1200	2088	8.4	2208	8.9	2321	9.3	2428	9.8	—	—
1275	2127	8.5	2245	9.0	2357	9.5	2463	9.9	—	—
1350	2167	8.7	2283	9.2	2394	9.6	—	—	—	—
1425	2207	8.9	2323	9.3	2432	9.8	—	—	—	—
1500	2249	9.0	2363	9.5	2471	9.9	—	—	—	—

High Static 1092-2490 RPM

NOTE: Fan tables include highest gas heat. Utilize static pressure gain tables for lower gas heat capacities.

### 48JC\*\*05 THREE PHASE — 4 TON VERTICAL SUPPLY (RPM - BHP)

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
1200	1190	0.18	1383	0.28	1544	0.39	1685	0.51	1814	0.63
1300	1255	0.21	1441	0.32	1599	0.43	1737	0.55	1863	0.68
1400	1320	0.24	1500	0.36	1654	0.48	1791	0.61	1914	0.74
1500	1388	0.28	1561	0.40	1711	0.53	1845	0.66	1967	0.80
1600	1456	0.33	1623	0.45	1770	0.59	1901	0.73	2020	0.87
1700	1526	0.38	1685	0.51	1829	0.65	1958	0.79	2075	0.94
1800	1596	0.43	1749	0.56	1889	0.71	2016	0.87	2131	1.02
1900	1668	0.49	1814	0.63	1950	0.78	2074	0.94	2188	1.11
2000	1741	0.56	1881	0.70	2012	0.86	2134	1.03	2246	1.20

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
1200	1933	0.77	2045	0.91	2151	1.06	2253	1.21	2351	1.38
1300	1980	0.82	2089	0.96	2194	1.12	2293	1.28	2389	1.44
1400	2029	0.88	2136	1.03	2238	1.19	2336	1.35	2430	1.52
1500	2080	0.95	2185	1.10	2285	1.26	2381	1.43	2473	1.60
1600	2131	1.02	2236	1.18	2334	1.34	2428	1.51	2519	1.69
1700	2185	1.10	2287	1.26	2385	1.43	2477	1.60	2566	1.78
1800	2239	1.19	2340	1.35	2436	1.53	2527	1.70	2615	1.89
1900	2295	1.28	2394	1.45	2489	1.63	2579	1.81	—	—
2000	2351	1.37	2449	1.55	2543	1.74	2632	1.93	—	—

- Standard Static 1190-1900 RPM, 0.72 Max BHP
- Medium Static 1190-2170 RPM, 1.06 Max BHP
- High Static 1190-2660 RPM, 1.96 Max BHP

NOTE: Fan tables include highest gas heat. Utilize static pressure gain tables for lower gas heat capacities.

### 48JC\*\*05 THREE PHASE - STANDARD STATIC — 4 TON VERTICAL SUPPLY (RPM - VDC)

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc
1200	1190	6.3	1383	7.3	1544	8.1	1685	8.9	1814	9.5
1300	1255	6.6	1441	7.6	1599	8.4	1737	9.1	1863	9.8
1400	1320	6.9	1500	7.9	1654	8.7	1791	9.4	—	—
1500	1388	7.3	1561	8.2	1711	9.0	1845	9.7	—	—
1600	1456	7.7	1623	8.5	1770	9.3	—	—	—	—
1700	1526	8.0	1685	8.9	1829	9.6	—	—	—	—
1800	1596	8.4	1749	9.2	1889	9.9	—	—	—	—
1900	1668	8.8	1814	9.5	—	—	—	—	—	—
2000	1741	9.2	1881	9.9	—	—	—	—	—	—

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc
1200	—	—	—	—	—	—	—	—	—	—
1300	—	—	—	—	—	—	—	—	—	—
1400	—	—	—	—	—	—	—	—	—	—
1500	—	—	—	—	—	—	—	—	—	—
1600	—	—	—	—	—	—	—	—	—	—
1700	—	—	—	—	—	—	—	—	—	—
1800	—	—	—	—	—	—	—	—	—	—
1900	—	—	—	—	—	—	—	—	—	—
2000	—	—	—	—	—	—	—	—	—	—

- Standard Static 1190-1900 RPM

NOTE: Fan tables include highest gas heat. Utilize static pressure gain tables for lower gas heat capacities.

## 48JC\*\*05 THREE PHASE - MEDIUM STATIC — 4 TON VERTICAL SUPPLY (RPM - VDC)

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc
1200	1190	5.5	1383	6.4	1544	7.1	1685	7.8	1814	8.4
1300	1255	5.8	1441	6.6	1599	7.4	1737	8.0	1863	8.6
1400	1320	6.1	1500	6.9	1654	7.6	1791	8.3	1914	8.8
1500	1388	6.4	1561	7.2	1711	7.9	1845	8.5	1967	9.1
1600	1456	6.7	1623	7.5	1770	8.2	1901	8.8	2020	9.3
1700	1526	7.0	1685	7.8	1829	8.4	1958	9.0	2075	9.6
1800	1596	7.4	1749	8.1	1889	8.7	2016	9.3	2131	9.8
1900	1668	7.7	1814	8.4	1950	9.0	2074	9.6	—	—
2000	1741	8.0	1881	8.7	2012	9.3	2134	9.8	—	—

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc
1200	1933	8.9	2045	9.4	2151	9.9	—	—	—	—
1300	1980	9.1	2089	9.6	—	—	—	—	—	—
1400	2029	9.4	2136	9.8	—	—	—	—	—	—
1500	2080	9.6	—	—	—	—	—	—	—	—
1600	2131	9.8	—	—	—	—	—	—	—	—
1700	—	—	—	—	—	—	—	—	—	—
1800	—	—	—	—	—	—	—	—	—	—
1900	—	—	—	—	—	—	—	—	—	—
2000	—	—	—	—	—	—	—	—	—	—

Medium Static 1190-2170 RPM

NOTE: Fan tables include highest gas heat. Utilize static pressure gain tables for lower gas heat capacities.

## 48JC\*\*05 THREE PHASE - HIGH STATIC — 4 TON VERTICAL SUPPLY (RPM - VDC)

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc
1200	1190	4.5	1383	5.2	1544	5.8	1685	6.3	1814	6.8
1300	1255	4.7	1441	5.4	1599	6.0	1737	6.5	1863	7.0
1400	1320	5.0	1500	5.6	1654	6.2	1791	6.7	1914	7.2
1500	1388	5.2	1561	5.9	1711	6.4	1845	6.9	1967	7.4
1600	1456	5.5	1623	6.1	1770	6.7	1901	7.1	2020	7.6
1700	1526	5.7	1685	6.3	1829	6.9	1958	7.4	2075	7.8
1800	1596	6.0	1749	6.6	1889	7.1	2016	7.6	2131	8.0
1900	1668	6.3	1814	6.8	1950	7.3	2074	7.8	2188	8.2
2000	1741	6.5	1881	7.1	2012	7.6	2134	8.0	2246	8.4

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc
1200	1933	7.3	2045	7.7	2151	8.1	2253	8.5	2351	8.8
1300	1980	7.4	2089	7.9	2194	8.2	2293	8.6	2389	9.0
1400	2029	7.6	2136	8.0	2238	8.4	2336	8.8	2430	9.1
1500	2080	7.8	2185	8.2	2285	8.6	2381	9.0	2473	9.3
1600	2131	8.0	2236	8.4	2334	8.8	2428	9.1	2519	9.5
1700	2185	8.2	2287	8.6	2385	9.0	2477	9.3	2566	9.6
1800	2239	8.4	2340	8.8	2436	9.2	2527	9.5	2615	9.8
1900	2295	8.6	2394	9.0	2489	9.4	2579	9.7	—	—
2000	2351	8.8	2449	9.2	2543	9.6	2632	9.9	—	—

High Static 1190-2660 RPM

NOTE: Fan tables include highest gas heat. Utilize static pressure gain tables for lower gas heat capacities.



**48JC\*\*06 THREE PHASE — 5 TON VERTICAL SUPPLY (RPM - BHP)**

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
1500	1387	0.28	1561	0.40	1711	0.53	1845	0.66	1967	0.80
1625	1473	0.34	1638	0.46	1784	0.60	1914	0.74	2034	0.89
1750	1561	0.40	1718	0.54	1859	0.68	1987	0.83	2103	0.98
1875	1650	0.47	1798	0.61	1935	0.77	2060	0.92	2174	1.08
2000	1741	0.56	1880	0.70	2012	0.86	2134	1.03	2246	1.20
2125	1832	0.65	1965	0.80	2092	0.97	2210	1.14	2320	1.32
2250	1925	0.75	2050	0.91	2172	1.08	2287	1.26	2394	1.45
2375	2018	0.87	2137	1.03	2254	1.21	2365	1.40	2470	1.59
2500	2113	1.00	2225	1.16	2337	1.35	2444	1.54	2547	1.75

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
1500	2079	0.95	2185	1.10	2285	1.26	2381	1.43	2473	1.60
1625	2145	1.04	2249	1.20	2347	1.37	2440	1.53	2530	1.71
1750	2212	1.14	2314	1.31	2410	1.48	2502	1.65	2590	1.84
1875	2280	1.25	2381	1.43	2476	1.60	2566	1.78	2653	1.97
2000	2351	1.37	2449	1.55	2543	1.74	2632	1.93	2717	2.12
2125	2422	1.50	2519	1.69	2611	1.88	2699	2.08	2783	2.28
2250	2495	1.64	2591	1.84	2681	2.04	2767	2.24	—	—
2375	2569	1.79	2663	2.00	2752	2.20	—	—	—	—
2500	2644	1.95	2736	2.17	2824	2.38	—	—	—	—

- Standard Static 1387-2150 RPM, 1.06 Max BHP
- Medium Static 1387-2390 RPM, 1.44 Max BHP
- High Static 1387-2836 RPM, 2.43 Max BHP

NOTE: Fan tables include highest gas heat. Utilize static pressure gain tables for lower gas heat capacities.

**48JC\*\*06 THREE PHASE — STANDARD STATIC — 5 TON VERTICAL SUPPLY (RPM - VDC)**

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc
1500	1387	6.5	1561	7.3	1711	8.0	1845	8.6	1967	9.1
1625	1473	6.9	1638	7.6	1784	8.3	1914	8.9	2034	9.5
1750	1561	7.3	1718	8.0	1859	8.6	1987	9.2	2103	9.8
1875	1650	7.7	1798	8.4	1935	9.0	2060	9.6	—	—
2000	1741	8.1	1880	8.7	2012	9.4	2134	9.9	—	—
2125	1832	8.5	1965	9.1	2092	9.7	—	—	—	—
2250	1925	9.0	2050	9.5	—	—	—	—	—	—
2375	2018	9.4	2137	9.9	—	—	—	—	—	—
2500	2113	9.8	—	—	—	—	—	—	—	—

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc
1500	2079	9.7	—	—	—	—	—	—	—	—
1625	2145	10.0	—	—	—	—	—	—	—	—
1750	—	—	—	—	—	—	—	—	—	—
1875	—	—	—	—	—	—	—	—	—	—
2000	—	—	—	—	—	—	—	—	—	—
2125	—	—	—	—	—	—	—	—	—	—
2250	—	—	—	—	—	—	—	—	—	—
2375	—	—	—	—	—	—	—	—	—	—
2500	—	—	—	—	—	—	—	—	—	—

- Standard Static 1387-2150 RPM

NOTE: Fan tables include highest gas heat. Utilize static pressure gain tables for lower gas heat capacities.

## 48JC\*\*06 THREE PHASE - MEDIUM STATIC — 5 TON VERTICAL SUPPLY (RPM - VDC)

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc
1500	1387	5.8	1561	6.5	1711	7.2	1845	7.7	1967	8.2
1625	1473	6.2	1638	6.9	1784	7.5	1914	8.0	2034	8.5
1750	1561	6.5	1718	7.2	1859	7.8	1987	8.3	2103	8.8
1875	1650	6.9	1798	7.5	1935	8.1	2060	8.6	2174	9.1
2000	1741	7.3	1880	7.9	2012	8.4	2134	8.9	2246	9.4
2125	1832	7.7	1965	8.2	2092	8.8	2210	9.2	2320	9.7
2250	1925	8.1	2050	8.6	2172	9.1	2287	9.6	—	—
2375	2018	8.4	2137	8.9	2254	9.4	2365	9.9	—	—
2500	2113	8.8	2225	9.3	2337	9.8	—	—	—	—

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc
1500	2079	8.7	2185	9.1	2285	9.6	2381	10.0	—	—
1625	2145	9.0	2249	9.4	2347	9.8	—	—	—	—
1750	2212	9.3	2314	9.7	—	—	—	—	—	—
1875	2280	9.5	2381	10.0	—	—	—	—	—	—
2000	2351	9.8	—	—	—	—	—	—	—	—
2125	—	—	—	—	—	—	—	—	—	—
2250	—	—	—	—	—	—	—	—	—	—
2375	—	—	—	—	—	—	—	—	—	—
2500	—	—	—	—	—	—	—	—	—	—

Medium Static 1387-2390 RPM

NOTE: Fan tables include highest gas heat. Utilize static pressure gain tables for lower gas heat capacities.

## 48JC\*\*06 THREE PHASE - HIGH STATIC — 5 TON VERTICAL SUPPLY (RPM - VDC)

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc
1500	1387	4.9	1561	5.5	1711	6.0	1845	6.5	1967	6.9
1625	1473	5.2	1638	5.8	1784	6.3	1914	6.7	2034	7.2
1750	1561	5.5	1718	6.1	1859	6.6	1987	7.0	2103	7.4
1875	1650	5.8	1798	6.3	1935	6.8	2060	7.3	2174	7.7
2000	1741	6.1	1880	6.6	2012	7.1	2134	7.5	2246	7.9
2125	1832	6.5	1965	6.9	2092	7.4	2210	7.8	2320	8.2
2250	1925	6.8	2050	7.2	2172	7.7	2287	8.1	2394	8.4
2375	2018	7.1	2137	7.5	2254	7.9	2365	8.3	2470	8.7
2500	2113	7.5	2225	7.8	2337	8.2	2444	8.6	2547	9.0

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc
1500	2079	7.3	2185	7.7	2285	8.1	2381	8.4	2473	8.7
1625	2145	7.6	2249	7.9	2347	8.3	2440	8.6	2530	8.9
1750	2212	7.8	2314	8.2	2410	8.5	2502	8.8	2590	9.1
1875	2280	8.0	2381	8.4	2476	8.7	2566	9.0	2653	9.4
2000	2351	8.3	2449	8.6	2543	9.0	2632	9.3	2717	9.6
2125	2422	8.5	2519	8.9	2611	9.2	2699	9.5	2783	9.8
2250	2495	8.8	2591	9.1	2681	9.5	2767	9.8	—	—
2375	2569	9.1	2663	9.4	2752	9.7	—	—	—	—
2500	2644	9.3	2736	9.6	2824	10.0	—	—	—	—

High Static 1387-2836 RPM

NOTE: Fan tables include highest gas heat. Utilize static pressure gain tables for lower gas heat capacities.





**48JC\*\*04 THREE PHASE — 3 TON HORIZONTAL SUPPLY (RPM - BHP)**

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
900	1060	0.08	1292	0.15	1483	0.23	1650	0.31	1798	0.40
975	1106	0.09	1331	0.16	1519	0.24	1683	0.33	1831	0.43
1050	1154	0.11	1371	0.18	1556	0.26	1718	0.35	1864	0.45
1125	1204	0.12	1413	0.20	1594	0.28	1753	0.38	1898	0.48
1200	1255	0.14	1456	0.21	1633	0.30	1790	0.40	1933	0.50
1275	1308	0.16	1500	0.24	1673	0.33	1828	0.43	1969	0.53
1350	1361	0.18	1546	0.26	1715	0.35	1867	0.45	2006	0.56
1425	1416	0.20	1594	0.28	1757	0.38	1907	0.48	2043	0.59
1500	1472	0.22	1642	0.31	1801	0.41	1947	0.51	2082	0.63

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
900	1933	0.50	2058	0.61	2175	0.72	2285	0.83	2390	0.95
975	1965	0.53	2089	0.63	2206	0.75	2315	0.86	2419	0.99
1050	1998	0.56	2121	0.66	2237	0.78	2346	0.90	2450	1.02
1125	2030	0.58	2154	0.70	2269	0.81	2377	0.94	2480	1.06
1200	2064	0.61	2186	0.73	2301	0.85	2409	0.97	—	—
1275	2099	0.64	2220	0.76	2333	0.88	2441	1.01	—	—
1350	2134	0.68	2254	0.80	2367	0.92	2474	1.05	—	—
1425	2170	0.71	2289	0.84	2401	0.96	—	—	—	—
1500	2208	0.75	2325	0.88	2436	1.01	—	—	—	—

- Standard Static 1060-1890 RPM, 0.44 Max BHP
- Medium Static 1060-2190 RPM, 0.71 Max BHP
- High Static 1060-2490 RPM, 1.07 Max BHP

NOTE: Fan tables include highest gas heat. Utilize static pressure gain tables for lower gas heat capacities.

**48JC\*\*04 THREE PHASE - STANDARD STATIC — 3 TON HORIZONTAL SUPPLY (RPM - VDC)**

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc
900	1060	5.6	1292	6.8	1483	7.8	1650	8.7	1798	9.5
975	1106	5.9	1331	7.0	1519	8.0	1683	8.9	1831	9.7
1050	1154	6.1	1371	7.3	1556	8.2	1718	9.1	1864	9.9
1125	1204	6.4	1413	7.5	1594	8.4	1753	9.3	—	—
1200	1255	6.6	1456	7.7	1633	8.6	1790	9.5	—	—
1275	1308	6.9	1500	7.9	1673	8.9	1828	9.7	—	—
1350	1361	7.2	1546	8.2	1715	9.1	1867	9.9	—	—
1425	1416	7.5	1594	8.4	1757	9.3	—	—	—	—
1500	1472	7.8	1642	8.7	1801	9.5	—	—	—	—

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc
900	—	—	—	—	—	—	—	—	—	—
975	—	—	—	—	—	—	—	—	—	—
1050	—	—	—	—	—	—	—	—	—	—
1125	—	—	—	—	—	—	—	—	—	—
1200	—	—	—	—	—	—	—	—	—	—
1275	—	—	—	—	—	—	—	—	—	—
1350	—	—	—	—	—	—	—	—	—	—
1425	—	—	—	—	—	—	—	—	—	—
1500	—	—	—	—	—	—	—	—	—	—

- Standard Static 1060-1890 RPM

NOTE: Fan tables include highest gas heat. Utilize static pressure gain tables for lower gas heat capacities.

## 48JC\*\*04 THREE PHASE - MEDIUM STATIC — 3 TON HORIZONTAL SUPPLY (RPM - VDC)

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc
900	1060	4.8	1292	5.9	1483	6.8	1650	7.5	1798	8.2
975	1106	5.1	1331	6.1	1519	6.9	1683	7.7	1831	8.4
1050	1154	5.3	1371	6.3	1556	7.1	1718	7.8	1864	8.5
1125	1204	5.5	1413	6.5	1594	7.3	1753	8.0	1898	8.7
1200	1255	5.7	1456	6.6	1633	7.5	1790	8.2	1933	8.8
1275	1308	6.0	1500	6.8	1673	7.6	1828	8.3	1969	9.0
1350	1361	6.2	1546	7.1	1715	7.8	1867	8.5	2006	9.2
1425	1416	6.5	1594	7.3	1757	8.0	1907	8.7	2043	9.3
1500	1472	6.7	1642	7.5	1801	8.2	1947	8.9	2082	9.5

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc
900	1933	8.8	2058	9.4	2175	9.9	—	—	—	—
975	1965	9.0	2089	9.5	—	—	—	—	—	—
1050	1998	9.1	2121	9.7	—	—	—	—	—	—
1125	2030	9.3	2154	9.8	—	—	—	—	—	—
1200	2064	9.4	2186	10.0	—	—	—	—	—	—
1275	2099	9.6	—	—	—	—	—	—	—	—
1350	2134	9.7	—	—	—	—	—	—	—	—
1425	2170	9.9	—	—	—	—	—	—	—	—
1500	—	—	—	—	—	—	—	—	—	—

Medium Static 1060-2190 RPM

NOTE: Fan tables include highest gas heat. Utilize static pressure gain tables for lower gas heat capacities.

## 48JC\*\*04 THREE PHASE - HIGH STATIC — 3 TON HORIZONTAL SUPPLY (RPM - VDC)

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc
900	1060	4.3	1292	5.2	1483	6.0	1650	6.6	1798	7.2
975	1106	4.4	1331	5.3	1519	6.1	1683	6.8	1831	7.4
1050	1154	4.6	1371	5.5	1556	6.2	1718	6.9	1864	7.5
1125	1204	4.8	1413	5.7	1594	6.4	1753	7.0	1898	7.6
1200	1255	5.0	1456	5.8	1633	6.6	1790	7.2	1933	7.8
1275	1308	5.3	1500	6.0	1673	6.7	1828	7.3	1969	7.9
1350	1361	5.5	1546	6.2	1715	6.9	1867	7.5	2006	8.1
1425	1416	5.7	1594	6.4	1757	7.1	1907	7.7	2043	8.2
1500	1472	5.9	1642	6.6	1801	7.2	1947	7.8	2082	8.4

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc
900	1933	7.8	2058	8.3	2175	8.7	2285	9.2	2390	9.6
975	1965	7.9	2089	8.4	2206	8.9	2315	9.3	2419	9.7
1050	1998	8.0	2121	8.5	2237	9.0	2346	9.4	2450	9.8
1125	2030	8.2	2154	8.7	2269	9.1	2377	9.5	2480	10.0
1200	2064	8.3	2186	8.8	2301	9.2	2409	9.7	—	—
1275	2099	8.4	2220	8.9	2333	9.4	2441	9.8	—	—
1350	2134	8.6	2254	9.1	2367	9.5	2474	9.9	—	—
1425	2170	8.7	2289	9.2	2401	9.6	—	—	—	—
1500	2208	8.9	2325	9.3	2436	9.8	—	—	—	—

High Static 1060-2490 RPM

NOTE: Fan tables include highest gas heat. Utilize static pressure gain tables for lower gas heat capacities.



**48JC\*\*05 THREE PHASE — 4 TON HORIZONTAL SUPPLY (RPM - BHP)**

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
1200	1148	0.16	1343	0.26	1507	0.37	1651	0.48	1781	0.60
1300	1209	0.19	1397	0.29	1557	0.40	1698	0.52	1826	0.65
1400	1271	0.22	1452	0.33	1608	0.44	1747	0.57	1873	0.70
1500	1335	0.25	1508	0.36	1661	0.49	1797	0.62	1921	0.75
1600	1401	0.29	1565	0.41	1714	0.53	1848	0.67	1971	0.81
1700	1468	0.33	1624	0.45	1769	0.59	1900	0.73	2020	0.87
1800	1537	0.38	1685	0.51	1825	0.64	1953	0.79	2072	0.94
1900	1606	0.44	1747	0.56	1882	0.70	2008	0.85	2124	1.01
2000	1676	0.50	1810	0.63	1940	0.77	2063	0.93	2177	1.09

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
1200	1902	0.73	2015	0.87	2122	1.02	2223	1.17	2320	1.33
1300	1945	0.78	2056	0.93	2161	1.07	2261	1.23	2356	1.39
1400	1990	0.84	2099	0.98	2202	1.13	2300	1.29	2395	1.46
1500	2036	0.89	2143	1.04	2245	1.20	2342	1.36	2435	1.53
1600	2084	0.96	2190	1.11	2290	1.27	2385	1.44	2477	1.61
1700	2132	1.02	2237	1.18	2336	1.35	2430	1.52	2520	1.69
1800	2182	1.10	2285	1.26	2383	1.43	2476	1.60	2565	1.78
1900	2232	1.17	2334	1.34	2431	1.52	2523	1.70	2611	1.88
2000	2284	1.26	2385	1.43	2480	1.61	2571	1.79	2658	1.98

- Standard Static 1148-1900 RPM, 0.72 Max BHP
- Medium Static 1148-2170 RPM, 1.06 Max BHP
- High Static 1148-2660 RPM, 1.96 Max BHP

NOTE: Fan tables include highest gas heat. Utilize static pressure gain tables for lower gas heat capacities.

**48JC\*\*05 THREE PHASE - STANDARD STATIC — 4 TON HORIZONTAL SUPPLY (RPM - VDC)**

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc
1200	1148	6.0	1343	7.1	1507	7.9	1651	8.7	1781	9.4
1300	1209	6.4	1397	7.4	1557	8.2	1698	8.9	1826	9.6
1400	1271	6.7	1452	7.6	1608	8.5	1747	9.2	1873	9.9
1500	1335	7.0	1508	7.9	1661	8.7	1797	9.5	—	—
1600	1401	7.4	1565	8.2	1714	9.0	1848	9.7	—	—
1700	1468	7.7	1624	8.5	1769	9.3	1900	10.0	—	—
1800	1537	8.1	1685	8.9	1825	9.6	—	—	—	—
1900	1606	8.5	1747	9.2	1882	9.9	—	—	—	—
2000	1676	8.8	1810	9.5	—	—	—	—	—	—

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc
1200	—	—	—	—	—	—	—	—	—	—
1300	—	—	—	—	—	—	—	—	—	—
1400	—	—	—	—	—	—	—	—	—	—
1500	—	—	—	—	—	—	—	—	—	—
1600	—	—	—	—	—	—	—	—	—	—
1700	—	—	—	—	—	—	—	—	—	—
1800	—	—	—	—	—	—	—	—	—	—
1900	—	—	—	—	—	—	—	—	—	—
2000	—	—	—	—	—	—	—	—	—	—

- Standard Static 1148-1900 RPM

NOTE: Fan tables include highest gas heat. Utilize static pressure gain tables for lower gas heat capacities.

## 48JC\*\*05 THREE PHASE - MEDIUM STATIC — 4 TON HORIZONTAL SUPPLY (RPM - VDC)

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc
1200	1148	5.3	1343	6.2	1507	6.9	1651	7.6	1781	8.2
1300	1209	5.6	1397	6.4	1557	7.2	1698	7.8	1826	8.4
1400	1271	5.9	1452	6.7	1608	7.4	1747	8.1	1873	8.6
1500	1335	6.2	1508	6.9	1661	7.7	1797	8.3	1921	8.9
1600	1401	6.5	1565	7.2	1714	7.9	1848	8.5	1971	9.1
1700	1468	6.8	1624	7.5	1769	8.2	1900	8.8	2020	9.3
1800	1537	7.1	1685	7.8	1825	8.4	1953	9.0	2072	9.5
1900	1606	7.4	1747	8.1	1882	8.7	2008	9.3	2124	9.8
2000	1676	7.7	1810	8.3	1940	8.9	2063	9.5	—	—

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc
1200	1902	8.8	2015	9.3	2122	9.8	—	—	—	—
1300	1945	9.0	2056	9.5	2161	10.0	—	—	—	—
1400	1990	9.2	2099	9.7	—	—	—	—	—	—
1500	2036	9.4	2143	9.9	—	—	—	—	—	—
1600	2084	9.6	—	—	—	—	—	—	—	—
1700	2132	9.8	—	—	—	—	—	—	—	—
1800	—	—	—	—	—	—	—	—	—	—
1900	—	—	—	—	—	—	—	—	—	—
2000	—	—	—	—	—	—	—	—	—	—

Medium Static 1148-2170 RPM

NOTE: Fan tables include highest gas heat. Utilize static pressure gain tables for lower gas heat capacities.

## 48JC\*\*05 THREE PHASE - HIGH STATIC — 4 TON HORIZONTAL SUPPLY (RPM - VDC)

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc
1200	1148	4.3	1343	5.0	1507	5.7	1651	6.2	1781	6.7
1300	1209	4.5	1397	5.3	1557	5.9	1698	6.4	1826	6.9
1400	1271	4.8	1452	5.5	1608	6.0	1747	6.6	1873	7.0
1500	1335	5.0	1508	5.7	1661	6.2	1797	6.8	1921	7.2
1600	1401	5.3	1565	5.9	1714	6.4	1848	6.9	1971	7.4
1700	1468	5.5	1624	6.1	1769	6.7	1900	7.1	2020	7.6
1800	1537	5.8	1685	6.3	1825	6.9	1953	7.3	2072	7.8
1900	1606	6.0	1747	6.6	1882	7.1	2008	7.5	2124	8.0
2000	1676	6.3	1810	6.8	1940	7.3	2063	7.8	2177	8.2

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc
1200	1902	7.2	2015	7.6	2122	8.0	2223	8.4	2320	8.7
1300	1945	7.3	2056	7.7	2161	8.1	2261	8.5	2356	8.9
1400	1990	7.5	2099	7.9	2202	8.3	2300	8.6	2395	9.0
1500	2036	7.7	2143	8.1	2245	8.4	2342	8.8	2435	9.2
1600	2084	7.8	2190	8.2	2290	8.6	2385	9.0	2477	9.3
1700	2132	8.0	2237	8.4	2336	8.8	2430	9.1	2520	9.5
1800	2182	8.2	2285	8.6	2383	9.0	2476	9.3	2565	9.6
1900	2232	8.4	2334	8.8	2431	9.1	2523	9.5	2611	9.8
2000	2284	8.6	2385	9.0	2480	9.3	2571	9.7	2658	10.0

High Static 1148-2660 RPM

NOTE: Fan tables include highest gas heat. Utilize static pressure gain tables for lower gas heat capacities.

### 48JC\*\*06 THREE PHASE — 5 TON HORIZONTAL SUPPLY (RPM - BHP)

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
1500	1335	0.25	1507	0.36	1660	0.49	1797	0.62	1921	0.75
1625	1418	0.30	1580	0.42	1727	0.55	1861	0.68	1983	0.83
1750	1502	0.36	1655	0.48	1796	0.61	1926	0.76	2046	0.91
1875	1589	0.42	1731	0.55	1867	0.69	1994	0.84	2111	0.99
2000	1677	0.50	1810	0.63	1941	0.77	2063	0.93	2177	1.09
2125	1766	0.58	1891	0.71	2015	0.86	2133	1.02	2245	1.19
2250	1855	0.67	1973	0.81	2091	0.96	2206	1.13	2314	1.31
2375	1946	0.78	2057	0.92	2169	1.07	2280	1.25	2385	1.43
2500	2037	0.89	2142	1.03	2249	1.20	2355	1.37	2457	1.56

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
1500	2036	0.89	2143	1.04	2245	1.20	2342	1.36	2435	1.53
1625	2096	0.97	2201	1.13	2301	1.29	2396	1.46	2488	1.63
1750	2157	1.06	2261	1.22	2359	1.39	2453	1.56	2542	1.74
1875	2220	1.16	2322	1.32	2419	1.49	2511	1.67	2599	1.85
2000	2284	1.26	2385	1.43	2480	1.61	2571	1.79	2658	1.98
2125	2350	1.37	2449	1.55	2543	1.73	2633	1.92	2719	2.12
2250	2417	1.49	2514	1.67	2607	1.87	2695	2.06	2780	2.26
2375	2485	1.62	2581	1.81	2672	2.01	2759	2.21	—	—
2500	2555	1.76	2649	1.96	2738	2.16	2824	2.37	—	—

- Standard Static 1335-2150 RPM, 1.06 Max BHP
- Medium Static 1335-2390 RPM, 1.44 Max BHP
- High Static 1335-2836 RPM, 2.43 Max BHP

NOTE: Fan tables include highest gas heat. Utilize static pressure gain tables for lower gas heat capacities.

### 48JC\*\*06 THREE PHASE - STANDARD STATIC — 5 TON HORIZONTAL SUPPLY (RPM - VDC)

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc
1500	1335	6.2	1507	7.0	1660	7.7	1797	8.4	1921	8.9
1625	1418	6.6	1580	7.3	1727	8.0	1861	8.7	1983	9.2
1750	1502	7.0	1655	7.7	1796	8.4	1926	9.0	2046	9.5
1875	1589	7.4	1731	8.1	1867	8.7	1994	9.3	2111	9.8
2000	1677	7.8	1810	8.4	1941	9.0	2063	9.6	—	—
2125	1766	8.2	1891	8.8	2015	9.4	2133	9.9	—	—
2250	1855	8.6	1973	9.2	2091	9.7	—	—	—	—
2375	1946	9.1	2057	9.6	—	—	—	—	—	—
2500	2037	9.5	2142	10.0	—	—	—	—	—	—

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc
1500	2036	9.5	2143	10.0	—	—	—	—	—	—
1625	2096	9.7	—	—	—	—	—	—	—	—
1750	—	—	—	—	—	—	—	—	—	—
1875	—	—	—	—	—	—	—	—	—	—
2000	—	—	—	—	—	—	—	—	—	—
2125	—	—	—	—	—	—	—	—	—	—
2250	—	—	—	—	—	—	—	—	—	—
2375	—	—	—	—	—	—	—	—	—	—
2500	—	—	—	—	—	—	—	—	—	—

- Standard Static 1335-2150 RPM

NOTE: Fan tables include highest gas heat. Utilize static pressure gain tables for lower gas heat capacities.

## 48JC\*\*06 THREE PHASE - MEDIUM STATIC — 5 TON HORIZONTAL SUPPLY (RPM - VDC)

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc
1500	1335	5.6	1507	6.3	1660	6.9	1797	7.5	1921	8.0
1625	1418	5.9	1580	6.6	1727	7.2	1861	7.8	1983	8.3
1750	1502	6.3	1655	6.9	1796	7.5	1926	8.1	2046	8.6
1875	1589	6.6	1731	7.2	1867	7.8	1994	8.3	2111	8.8
2000	1677	7.0	1810	7.6	1941	8.1	2063	8.6	2177	9.1
2125	1766	7.4	1891	7.9	2015	8.4	2133	8.9	2245	9.4
2250	1855	7.8	1973	8.3	2091	8.7	2206	9.2	2314	9.7
2375	1946	8.1	2057	8.6	2169	9.1	2280	9.5	2385	10.0
2500	2037	8.5	2142	9.0	2249	9.4	2355	9.9	—	—

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc
1500	2036	8.5	2143	9.0	2245	9.4	2342	9.8	—	—
1625	2096	8.8	2201	9.2	2301	9.6	—	—	—	—
1750	2157	9.0	2261	9.5	2359	9.9	—	—	—	—
1875	2220	9.3	2322	9.7	—	—	—	—	—	—
2000	2284	9.6	2385	10.0	—	—	—	—	—	—
2125	2350	9.8	—	—	—	—	—	—	—	—
2250	—	—	—	—	—	—	—	—	—	—
2375	—	—	—	—	—	—	—	—	—	—
2500	—	—	—	—	—	—	—	—	—	—

Medium Static 1335-2390 RPM

NOTE: Fan tables include highest gas heat. Utilize static pressure gain tables for lower gas heat capacities.

## 48JC\*\*06 THREE PHASE - HIGH STATIC — 5 TON HORIZONTAL SUPPLY (RPM - VDC)

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc
1500	1335	4.7	1507	5.3	1660	5.9	1797	6.3	1921	6.8
1625	1418	5.0	1580	5.6	1727	6.1	1861	6.6	1983	7.0
1750	1502	5.3	1655	5.8	1796	6.3	1926	6.8	2046	7.2
1875	1589	5.6	1731	6.1	1867	6.6	1994	7.0	2111	7.4
2000	1677	5.9	1810	6.4	1941	6.8	2063	7.3	2177	7.7
2125	1766	6.2	1891	6.7	2015	7.1	2133	7.5	2245	7.9
2250	1855	6.5	1973	7.0	2091	7.4	2206	7.8	2314	8.2
2375	1946	6.9	2057	7.3	2169	7.6	2280	8.0	2385	8.4
2500	2037	7.2	2142	7.6	2249	7.9	2355	8.3	2457	8.7

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc
1500	2036	7.2	2143	7.6	2245	7.9	2342	8.3	2435	8.6
1625	2096	7.4	2201	7.8	2301	8.1	2396	8.4	2488	8.8
1750	2157	7.6	2261	8.0	2359	8.3	2453	8.6	2542	9.0
1875	2220	7.8	2322	8.2	2419	8.5	2511	8.9	2599	9.2
2000	2284	8.1	2385	8.4	2480	8.7	2571	9.1	2658	9.4
2125	2350	8.3	2449	8.6	2543	9.0	2633	9.3	2719	9.6
2250	2417	8.5	2514	8.9	2607	9.2	2695	9.5	2780	9.8
2375	2485	8.8	2581	9.1	2672	9.4	2759	9.7	—	—
2500	2555	9.0	2649	9.3	2738	9.7	2824	10.0	—	—

High Static 1335-2836 RPM

NOTE: Fan tables include highest gas heat. Utilize static pressure gain tables for lower gas heat capacities.



**50JC\*\*04 THREE PHASE — 3 TON VERTICAL SUPPLY (RPM - BHP)**

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
900	1021	0.07	1281	0.15	1496	0.23	1673	0.33	1825	0.42
975	1063	0.08	1309	0.16	1523	0.25	1703	0.34	1857	0.45
1050	1108	0.09	1339	0.17	1550	0.26	1731	0.36	1888	0.47
1125	1156	0.11	1371	0.18	1577	0.27	1759	0.38	1917	0.49
1200	1205	0.12	1407	0.19	1605	0.29	1785	0.40	1945	0.51
1275	1257	0.14	1446	0.21	1634	0.30	1812	0.41	1972	0.53
1350	1309	0.16	1487	0.23	1666	0.32	1839	0.43	1999	0.56
1425	1363	0.18	1531	0.25	1701	0.34	1868	0.45	2026	0.58
1500	1418	0.20	1576	0.27	1738	0.37	1898	0.48	2053	0.60

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
900	1959	0.52	2082	0.63	2195	0.74	2301	0.85	2401	0.96
975	1994	0.55	2118	0.66	2232	0.77	2338	0.89	2439	1.01
1050	2027	0.58	2152	0.69	2268	0.81	2375	0.93	2476	1.06
1125	2058	0.61	2185	0.73	2302	0.85	2410	0.97	—	—
1200	2088	0.63	2217	0.76	2335	0.89	2445	1.02	—	—
1275	2116	0.66	2247	0.79	2367	0.92	2478	1.06	—	—
1350	2144	0.69	2276	0.82	2397	0.96	—	—	—	—
1425	2171	0.71	2304	0.85	2426	0.99	—	—	—	—
1500	2197	0.74	2331	0.88	2454	1.03	—	—	—	—

Standard Static 1021-1890 RPM, 0.44 Max BHP

Medium Static 1021-2190 RPM, 0.71 Max BHP

High Static 1021-2490 RPM, 1.07 Max BHP

**50JC\*\*04 THREE PHASE - STANDARD STATIC — 3 TON VERTICAL SUPPLY (RPM - VDC)**

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc
900	1021	5.4	1281	6.8	1496	7.9	1673	8.9	1825	9.7
975	1063	5.6	1309	6.9	1523	8.1	1703	9.0	1857	9.8
1050	1108	5.9	1339	7.1	1550	8.2	1731	9.2	1888	10.0
1125	1156	6.1	1371	7.3	1577	8.3	1759	9.3	—	—
1200	1205	6.4	1407	7.4	1605	8.5	1785	9.4	—	—
1275	1257	6.7	1446	7.7	1634	8.6	1812	9.6	—	—
1350	1309	6.9	1487	7.9	1666	8.8	1839	9.7	—	—
1425	1363	7.2	1531	8.1	1701	9.0	1868	9.9	—	—
1500	1418	7.5	1576	8.3	1738	9.2	—	—	—	—

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc
900	—	—	—	—	—	—	—	—	—	—
975	—	—	—	—	—	—	—	—	—	—
1050	—	—	—	—	—	—	—	—	—	—
1125	—	—	—	—	—	—	—	—	—	—
1200	—	—	—	—	—	—	—	—	—	—
1275	—	—	—	—	—	—	—	—	—	—
1350	—	—	—	—	—	—	—	—	—	—
1425	—	—	—	—	—	—	—	—	—	—
1500	—	—	—	—	—	—	—	—	—	—

Standard Static 1021-1890 RPM

## 50JC\*\*04 THREE PHASE - MEDIUM STATIC — 3 TON VERTICAL SUPPLY (RPM - VDC)

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc
900	1021	4.7	1281	5.8	1496	6.8	1673	7.6	1825	8.3
975	1063	4.9	1309	6.0	1523	7.0	1703	7.8	1857	8.5
1050	1108	5.1	1339	6.1	1550	7.1	1731	7.9	1888	8.6
1125	1156	5.3	1371	6.3	1577	7.2	1759	8.0	1917	8.8
1200	1205	5.5	1407	6.4	1605	7.3	1785	8.2	1945	8.9
1275	1257	5.7	1446	6.6	1634	7.5	1812	8.3	1972	9.0
1350	1309	6.0	1487	6.8	1666	7.6	1839	8.4	1999	9.1
1425	1363	6.2	1531	7.0	1701	7.8	1868	8.5	2026	9.3
1500	1418	6.5	1576	7.2	1738	7.9	1898	8.7	2053	9.4

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc
900	1959	8.9	2082	9.5	—	—	—	—	—	—
975	1994	9.1	2118	9.7	—	—	—	—	—	—
1050	2027	9.3	2152	9.8	—	—	—	—	—	—
1125	2058	9.4	2185	10.0	—	—	—	—	—	—
1200	2088	9.5	—	—	—	—	—	—	—	—
1275	2116	9.7	—	—	—	—	—	—	—	—
1350	2144	9.8	—	—	—	—	—	—	—	—
1425	2171	9.9	—	—	—	—	—	—	—	—
1500	—	—	—	—	—	—	—	—	—	—

Medium Static 1021-2190 RPM

## 50JC\*\*04 THREE PHASE - HIGH STATIC — 3 TON VERTICAL SUPPLY (RPM - VDC)

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc
900	1021	4.1	1281	5.1	1496	6.0	1673	6.7	1825	7.3
975	1063	4.3	1309	5.3	1523	6.1	1703	6.8	1857	7.5
1050	1108	4.4	1339	5.4	1550	6.2	1731	7.0	1888	7.6
1125	1156	4.6	1371	5.5	1577	6.3	1759	7.1	1917	7.7
1200	1205	4.8	1407	5.7	1605	6.4	1785	7.2	1945	7.8
1275	1257	5.0	1446	5.8	1634	6.6	1812	7.3	1972	7.9
1350	1309	5.3	1487	6.0	1666	6.7	1839	7.4	1999	8.0
1425	1363	5.5	1531	6.1	1701	6.8	1868	7.5	2026	8.1
1500	1418	5.7	1576	6.3	1738	7.0	1898	7.6	2053	8.2

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc
900	1959	7.9	2082	8.4	2195	8.8	2301	9.2	2401	9.6
975	1994	8.0	2118	8.5	2232	9.0	2338	9.4	2439	9.8
1050	2027	8.1	2152	8.6	2268	9.1	2375	9.5	2476	9.9
1125	2058	8.3	2185	8.8	2302	9.2	2410	9.7	—	—
1200	2088	8.4	2217	8.9	2335	9.4	2445	9.8	—	—
1275	2116	8.5	2247	9.0	2367	9.5	2478	10.0	—	—
1350	2144	8.6	2276	9.1	2397	9.6	—	—	—	—
1425	2171	8.7	2304	9.3	2426	9.7	—	—	—	—
1500	2197	8.8	2331	9.4	2454	9.9	—	—	—	—

High Static 1021-2490 RPM





**50JC\*\*05 THREE PHASE — 4 TON VERTICAL SUPPLY (RPM - BHP)**

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
1200	1057	0.13	1259	0.22	1436	0.32	1593	0.44	1736	0.57
1300	1112	0.15	1302	0.24	1473	0.34	1626	0.46	1768	0.59
1400	1168	0.17	1347	0.26	1513	0.37	1663	0.49	1800	0.62
1500	1228	0.20	1394	0.29	1555	0.40	1701	0.53	1835	0.66
1600	1290	0.23	1444	0.32	1598	0.43	1740	0.56	1872	0.70
1700	1353	0.26	1496	0.35	1643	0.47	1781	0.60	1910	0.74
1800	1417	0.30	1550	0.39	1690	0.51	1824	0.64	1950	0.78
1900	1482	0.34	1606	0.44	1738	0.55	1868	0.69	1991	0.83
2000	1549	0.39	1664	0.48	1789	0.60	1914	0.74	2034	0.88

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
1200	1869	0.71	1992	0.85	2107	1.01	2216	1.18	2319	1.35
1300	1898	0.74	2019	0.89	2134	1.05	2242	1.21	2345	1.39
1400	1928	0.77	2048	0.92	2162	1.08	2269	1.25	2371	1.43
1500	1961	0.80	2079	0.96	2191	1.12	2297	1.29	2399	1.47
1600	1995	0.84	2112	1.00	2221	1.16	2326	1.34	2427	1.52
1700	2031	0.89	2145	1.05	2254	1.21	2357	1.39	2456	1.57
1800	2068	0.93	2181	1.10	2287	1.26	2390	1.44	2487	1.62
1900	2108	0.99	2217	1.15	2322	1.32	2423	1.50	2520	1.68
2000	2148	1.04	2256	1.21	2359	1.38	2458	1.56	2553	1.75

Standard Static 1057-1900 RPM, 0.72 Max BHP

Medium Static 1057-2170 RPM, 1.06 Max BHP

High Static 1057-2660 RPM, 1.96 Max BHP

**50JC\*\*05 THREE PHASE - STANDARD STATIC — 4 TON VERTICAL SUPPLY (RPM - VDC)**

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc
1200	1057	5.6	1259	6.6	1436	7.6	1593	8.4	1736	9.1
1300	1112	5.9	1302	6.9	1473	7.8	1626	8.6	1768	9.3
1400	1168	6.1	1347	7.1	1513	8.0	1663	8.8	1800	9.5
1500	1228	6.5	1394	7.3	1555	8.2	1701	9.0	1835	9.7
1600	1290	6.8	1444	7.6	1598	8.4	1740	9.2	1872	9.9
1700	1353	7.1	1496	7.9	1643	8.6	1781	9.4	—	—
1800	1417	7.5	1550	8.2	1690	8.9	1824	9.6	—	—
1900	1482	7.8	1606	8.5	1738	9.1	1868	9.8	—	—
2000	1549	8.2	1664	8.8	1789	9.4	—	—	—	—

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc
1200	1869	9.8	—	—	—	—	—	—	—	—
1300	1898	10.0	—	—	—	—	—	—	—	—
1400	—	—	—	—	—	—	—	—	—	—
1500	—	—	—	—	—	—	—	—	—	—
1600	—	—	—	—	—	—	—	—	—	—
1700	—	—	—	—	—	—	—	—	—	—
1800	—	—	—	—	—	—	—	—	—	—
1900	—	—	—	—	—	—	—	—	—	—
2000	—	—	—	—	—	—	—	—	—	—

Standard Static 1057-1900 RPM

## 50JC\*\*05 THREE PHASE - MEDIUM STATIC — 4 TON VERTICAL SUPPLY (RPM - VDC)

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc
1200	1057	4.9	1259	5.8	1436	6.6	1593	7.3	1736	8.0
1300	1112	5.1	1302	6.0	1473	6.8	1626	7.5	1768	8.1
1400	1168	5.4	1347	6.2	1513	7.0	1663	7.7	1800	8.3
1500	1228	5.7	1394	6.4	1555	7.2	1701	7.8	1835	8.5
1600	1290	5.9	1444	6.7	1598	7.4	1740	8.0	1872	8.6
1700	1353	6.2	1496	6.9	1643	7.6	1781	8.2	1910	8.8
1800	1417	6.5	1550	7.1	1690	7.8	1824	8.4	1950	9.0
1900	1482	6.8	1606	7.4	1738	8.0	1868	8.6	1991	9.2
2000	1549	7.1	1664	7.7	1789	8.2	1914	8.8	2034	9.4

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc
1200	1869	8.6	1992	9.2	2107	9.7	—	—	—	—
1300	1898	8.7	2019	9.3	2134	9.8	—	—	—	—
1400	1928	8.9	2048	9.4	2162	10.0	—	—	—	—
1500	1961	9.0	2079	9.6	—	—	—	—	—	—
1600	1995	9.2	2112	9.7	—	—	—	—	—	—
1700	2031	9.4	2145	9.9	—	—	—	—	—	—
1800	2068	9.5	—	—	—	—	—	—	—	—
1900	2108	9.7	—	—	—	—	—	—	—	—
2000	2148	9.9	—	—	—	—	—	—	—	—

Medium Static 1057-2170 RPM

## 50JC\*\*05 THREE PHASE - HIGH STATIC — 4 TON VERTICAL SUPPLY (RPM - VDC)

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc
1200	1057	4.0	1259	4.7	1436	5.4	1593	6.0	1736	6.5
1300	1112	4.2	1302	4.9	1473	5.5	1626	6.1	1768	6.6
1400	1168	4.4	1347	5.1	1513	5.7	1663	6.3	1800	6.8
1500	1228	4.6	1394	5.2	1555	5.8	1701	6.4	1835	6.9
1600	1290	4.8	1444	5.4	1598	6.0	1740	6.5	1872	7.0
1700	1353	5.1	1496	5.6	1643	6.2	1781	6.7	1910	7.2
1800	1417	5.3	1550	5.8	1690	6.4	1824	6.9	1950	7.3
1900	1482	5.6	1606	6.0	1738	6.5	1868	7.0	1991	7.5
2000	1549	5.8	1664	6.3	1789	6.7	1914	7.2	2034	7.6

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc
1200	1869	7.0	1992	7.5	2107	7.9	2216	8.3	2319	8.7
1300	1898	7.1	2019	7.6	2134	8.0	2242	8.4	2345	8.8
1400	1928	7.2	2048	7.7	2162	8.1	2269	8.5	2371	8.9
1500	1961	7.4	2079	7.8	2191	8.2	2297	8.6	2399	9.0
1600	1995	7.5	2112	7.9	2221	8.3	2326	8.7	2427	9.1
1700	2031	7.6	2145	8.1	2254	8.5	2357	8.9	2456	9.2
1800	2068	7.8	2181	8.2	2287	8.6	2390	9.0	2487	9.3
1900	2108	7.9	2217	8.3	2322	8.7	2423	9.1	2520	9.5
2000	2148	8.1	2256	8.5	2359	8.9	2458	9.2	2553	9.6

High Static 1057-2660 RPM

**50JC\*\*06 THREE PHASE — 5 TON VERTICAL SUPPLY (RPM - BHP)**

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
1500	1228	0.20	1394	0.29	1555	0.40	1701	0.53	1836	0.66
1625	1305	0.24	1457	0.33	1609	0.44	1751	0.57	1882	0.71
1750	1384	0.28	1523	0.37	1666	0.49	1803	0.62	1930	0.76
1875	1466	0.33	1592	0.43	1726	0.54	1857	0.67	1981	0.82
2000	1549	0.39	1664	0.48	1789	0.60	1914	0.74	2034	0.88
2125	1633	0.46	1738	0.55	1855	0.67	1974	0.81	2089	0.95
2250	1718	0.53	1815	0.62	1924	0.74	2036	0.88	2147	1.03
2375	1803	0.61	1894	0.71	1995	0.83	2100	0.97	2206	1.12
2500	1890	0.70	1974	0.80	2068	0.92	2167	1.06	2268	1.21

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
1500	1961	0.80	2079	0.96	2191	1.12	2297	1.29	2399	1.47
1625	2004	0.85	2120	1.01	2230	1.18	2334	1.35	2434	1.53
1750	2050	0.91	2163	1.07	2270	1.24	2373	1.41	2472	1.60
1875	2098	0.97	2208	1.13	2314	1.31	2415	1.48	2511	1.67
2000	2148	1.04	2256	1.21	2359	1.38	2458	1.56	2553	1.75
2125	2200	1.11	2306	1.28	2407	1.46	2504	1.64	2597	1.83
2250	2254	1.20	2357	1.37	2456	1.55	2551	1.73	2643	1.93
2375	2310	1.28	2411	1.46	2507	1.64	2601	1.83	2691	2.03
2500	2368	1.38	2465	1.56	2560	1.75	2651	1.94	2740	2.14

Standard Static 1228-2150 RPM, 1.06 Max BHP

Medium Static 1228-2390 RPM, 1.44 Max BHP

High Static 1228-2836 RPM, 2.43 Max BHP

**50JC\*\*06 THREE PHASE - STANDARD STATIC — 5 TON VERTICAL SUPPLY (RPM - VDC)**

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc
1500	1228	5.7	1394	6.5	1555	7.2	1701	7.9	1836	8.5
1625	1305	6.1	1457	6.8	1609	7.5	1751	8.1	1882	8.8
1750	1384	6.4	1523	7.1	1666	7.7	1803	8.4	1930	9.0
1875	1466	6.8	1592	7.4	1726	8.0	1857	8.6	1981	9.2
2000	1549	7.2	1664	7.7	1789	8.3	1914	8.9	2034	9.5
2125	1633	7.6	1738	8.1	1855	8.6	1974	9.2	2089	9.7
2250	1718	8.0	1815	8.4	1924	8.9	2036	9.5	2147	10.0
2375	1803	8.4	1894	8.8	1995	9.3	2100	9.8	—	—
2500	1890	8.8	1974	9.2	2068	9.6	—	—	—	—

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc
1500	1961	9.1	2079	9.7	—	—	—	—	—	—
1625	2004	9.3	2120	9.9	—	—	—	—	—	—
1750	2050	9.5	—	—	—	—	—	—	—	—
1875	2098	9.8	—	—	—	—	—	—	—	—
2000	2148	10.0	—	—	—	—	—	—	—	—
2125	—	—	—	—	—	—	—	—	—	—
2250	—	—	—	—	—	—	—	—	—	—
2375	—	—	—	—	—	—	—	—	—	—
2500	—	—	—	—	—	—	—	—	—	—

Standard Static 1228-2150 RPM

## 50JC\*\*06 THREE PHASE - MEDIUM STATIC — 5 TON VERTICAL SUPPLY (RPM - VDC)

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc
1500	1228	5.1	1394	5.8	1555	6.5	1701	7.1	1836	7.7
1625	1305	5.5	1457	6.1	1609	6.7	1751	7.3	1882	7.9
1750	1384	5.8	1523	6.4	1666	7.0	1803	7.5	1930	8.1
1875	1466	6.1	1592	6.7	1726	7.2	1857	7.8	1981	8.3
2000	1549	6.5	1664	7.0	1789	7.5	1914	8.0	2034	8.5
2125	1633	6.8	1738	7.3	1855	7.8	1974	8.3	2089	8.7
2250	1718	7.2	1815	7.6	1924	8.1	2036	8.5	2147	9.0
2375	1803	7.5	1894	7.9	1995	8.3	2100	8.8	2206	9.2
2500	1890	7.9	1974	8.3	2068	8.7	2167	9.1	2268	9.5

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc
1500	1961	8.2	2079	8.7	2191	9.2	2297	9.6	—	—
1625	2004	8.4	2120	8.9	2230	9.3	2334	9.8	—	—
1750	2050	8.6	2163	9.1	2270	9.5	2373	9.9	—	—
1875	2098	8.8	2208	9.2	2314	9.7	—	—	—	—
2000	2148	9.0	2256	9.4	2359	9.9	—	—	—	—
2125	2200	9.2	2306	9.6	—	—	—	—	—	—
2250	2254	9.4	2357	9.9	—	—	—	—	—	—
2375	2310	9.7	—	—	—	—	—	—	—	—
2500	2368	9.9	—	—	—	—	—	—	—	—

Medium Static 1228-2390 RPM

## 50JC\*\*06 THREE PHASE - HIGH STATIC — 5 TON VERTICAL SUPPLY (RPM - VDC)

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc
1500	1228	4.3	1394	4.9	1555	5.5	1701	6.0	1836	6.5
1625	1305	4.6	1457	5.1	1609	5.7	1751	6.2	1882	6.6
1750	1384	4.9	1523	5.4	1666	5.9	1803	6.4	1930	6.8
1875	1466	5.2	1592	5.6	1726	6.1	1857	6.5	1981	7.0
2000	1549	5.5	1664	5.9	1789	6.3	1914	6.7	2034	7.2
2125	1633	5.8	1738	6.1	1855	6.5	1974	7.0	2089	7.4
2250	1718	6.1	1815	6.4	1924	6.8	2036	7.2	2147	7.6
2375	1803	6.4	1894	6.7	1995	7.0	2100	7.4	2206	7.8
2500	1890	6.7	1974	7.0	2068	7.3	2167	7.6	2268	8.0

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc
1500	1961	6.9	2079	7.3	2191	7.7	2297	8.1	2399	8.5
1625	2004	7.1	2120	7.5	2230	7.9	2334	8.2	2434	8.6
1750	2050	7.2	2163	7.6	2270	8.0	2373	8.4	2472	8.7
1875	2098	7.4	2208	7.8	2314	8.2	2415	8.5	2511	8.9
2000	2148	7.6	2256	8.0	2359	8.3	2458	8.7	2553	9.0
2125	2200	7.8	2306	8.1	2407	8.5	2504	8.8	2597	9.2
2250	2254	7.9	2357	8.3	2456	8.7	2551	9.0	2643	9.3
2375	2310	8.1	2411	8.5	2507	8.8	2601	9.2	2691	9.5
2500	2368	8.3	2465	8.7	2560	9.0	2651	9.3	2740	9.7

High Static 1228-2836 RPM



**50JC\*\*04 THREE PHASE — 3 TON HORIZONTAL SUPPLY (RPM - BHP)**

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
900	998	0.07	1258	0.14	1472	0.22	1652	0.31	1808	0.41
975	1036	0.08	1285	0.15	1498	0.23	1678	0.33	1836	0.43
1050	1077	0.09	1314	0.16	1523	0.25	1704	0.34	1863	0.45
1125	1121	0.10	1345	0.17	1549	0.26	1729	0.36	1888	0.47
1200	1167	0.11	1378	0.18	1577	0.27	1755	0.38	1914	0.49
1275	1216	0.13	1413	0.20	1604	0.29	1781	0.39	1939	0.51
1350	1266	0.14	1450	0.21	1634	0.30	1807	0.41	1965	0.53
1425	1318	0.16	1490	0.23	1666	0.32	1834	0.43	1991	0.55
1500	1370	0.18	1532	0.25	1700	0.34	1863	0.45	2016	0.57

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
900	1948	0.51	2074	0.62	2191	0.73	2300	0.85	2402	0.97
975	1977	0.54	2105	0.65	2223	0.76	2333	0.88	2436	1.01
1050	2005	0.56	2134	0.68	2253	0.80	2364	0.92	2468	1.05
1125	2032	0.58	2162	0.70	2282	0.83	2394	0.96	—	—
1200	2058	0.61	2189	0.73	2310	0.86	2423	0.99	—	—
1275	2083	0.63	2215	0.76	2337	0.89	2451	1.03	—	—
1350	2108	0.65	2241	0.78	2364	0.92	2478	1.06	—	—
1425	2134	0.68	2266	0.81	2389	0.95	—	—	—	—
1500	2159	0.70	2291	0.84	2415	0.98	—	—	—	—

Standard Static 998-1890 RPM, 0.44 Max BHP

Medium Static 998-2190 RPM, 0.71 Max BHP

High Static 998-2490 RPM, 1.07 Max BHP

**50JC\*\*04 THREE PHASE - STANDARD STATIC — 3 TON HORIZONTAL SUPPLY (RPM - VDC)**

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc
900	998	5.3	1258	6.7	1472	7.8	1652	8.7	1808	9.6
975	1036	5.5	1285	6.8	1498	7.9	1678	8.9	1836	9.7
1050	1077	5.7	1314	7.0	1523	8.1	1704	9.0	1863	9.9
1125	1121	5.9	1345	7.1	1549	8.2	1729	9.1	1888	10.0
1200	1167	6.2	1378	7.3	1577	8.3	1755	9.3	—	—
1275	1216	6.4	1413	7.5	1604	8.5	1781	9.4	—	—
1350	1266	6.7	1450	7.7	1634	8.6	1807	9.6	—	—
1425	1318	7.0	1490	7.9	1666	8.8	1834	9.7	—	—
1500	1370	7.2	1532	8.1	1700	9.0	1863	9.9	—	—

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc
900	—	—	—	—	—	—	—	—	—	—
975	—	—	—	—	—	—	—	—	—	—
1050	—	—	—	—	—	—	—	—	—	—
1125	—	—	—	—	—	—	—	—	—	—
1200	—	—	—	—	—	—	—	—	—	—
1275	—	—	—	—	—	—	—	—	—	—
1350	—	—	—	—	—	—	—	—	—	—
1425	—	—	—	—	—	—	—	—	—	—
1500	—	—	—	—	—	—	—	—	—	—

Standard Static 998-1890 RPM

## 50JC\*\*04 THREE PHASE - MEDIUM STATIC — 3 TON HORIZONTAL SUPPLY (RPM - Vdc)

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc
900	998	4.6	1258	5.7	1472	6.7	1652	7.5	1808	8.3
975	1036	4.7	1285	5.9	1498	6.8	1678	7.7	1836	8.4
1050	1077	4.9	1314	6.0	1523	7.0	1704	7.8	1863	8.5
1125	1121	5.1	1345	6.1	1549	7.1	1729	7.9	1888	8.6
1200	1167	5.3	1378	6.3	1577	7.2	1755	8.0	1914	8.7
1275	1216	5.6	1413	6.5	1604	7.3	1781	8.1	1939	8.9
1350	1266	5.8	1450	6.6	1634	7.5	1807	8.3	1965	9.0
1425	1318	6.0	1490	6.8	1666	7.6	1834	8.4	1991	9.1
1500	1370	6.3	1532	7.0	1700	7.8	1863	8.5	2016	9.2

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc
900	1948	8.9	2074	9.5	—	—	—	—	—	—
975	1977	9.0	2105	9.6	—	—	—	—	—	—
1050	2005	9.2	2134	9.7	—	—	—	—	—	—
1125	2032	9.3	2162	9.9	—	—	—	—	—	—
1200	2058	9.4	2189	10.0	—	—	—	—	—	—
1275	2083	9.5	—	—	—	—	—	—	—	—
1350	2108	9.6	—	—	—	—	—	—	—	—
1425	2134	9.7	—	—	—	—	—	—	—	—
1500	2159	9.9	—	—	—	—	—	—	—	—

Medium Static 998-2190 RPM

## 50JC\*\*04 THREE PHASE - HIGH STATIC — 3 TON HORIZONTAL SUPPLY (RPM - Vdc)

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc
900	998	4.0	1258	5.1	1472	5.9	1652	6.6	1808	7.3
975	1036	4.2	1285	5.2	1498	6.0	1678	6.7	1836	7.4
1050	1077	4.3	1314	5.3	1523	6.1	1704	6.8	1863	7.5
1125	1121	4.5	1345	5.4	1549	6.2	1729	6.9	1888	7.6
1200	1167	4.7	1378	5.5	1577	6.3	1755	7.0	1914	7.7
1275	1216	4.9	1413	5.7	1604	6.4	1781	7.2	1939	7.8
1350	1266	5.1	1450	5.8	1634	6.6	1807	7.3	1965	7.9
1425	1318	5.3	1490	6.0	1666	6.7	1834	7.4	1991	8.0
1500	1370	5.5	1532	6.2	1700	6.8	1863	7.5	2016	8.1

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc
900	1948	7.8	2074	8.3	2191	8.8	2300	9.2	2402	9.6
975	1977	7.9	2105	8.5	2223	8.9	2333	9.4	2436	9.8
1050	2005	8.1	2134	8.6	2253	9.0	2364	9.5	2468	9.9
1125	2032	8.2	2162	8.7	2282	9.2	2394	9.6	—	—
1200	2058	8.3	2189	8.8	2310	9.3	2423	9.7	—	—
1275	2083	8.4	2215	8.9	2337	9.4	2451	9.8	—	—
1350	2108	8.5	2241	9.0	2364	9.5	2478	10.0	—	—
1425	2134	8.6	2266	9.1	2389	9.6	—	—	—	—
1500	2159	8.7	2291	9.2	2415	9.7	—	—	—	—

High Static 998-2490 RPM

**50JC\*\*05 THREE PHASE — 4 TON HORIZONTAL SUPPLY (RPM - BHP)**

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
1200	1031	0.11	1235	0.20	1423	0.30	1589	0.42	1738	0.55
1300	1083	0.13	1274	0.21	1454	0.32	1618	0.44	1765	0.57
1400	1138	0.15	1316	0.24	1487	0.34	1647	0.46	1793	0.60
1500	1197	0.18	1361	0.26	1524	0.36	1678	0.49	1822	0.62
1600	1256	0.20	1409	0.29	1563	0.39	1712	0.51	1852	0.65
1700	1317	0.23	1459	0.32	1605	0.42	1748	0.55	1884	0.68
1800	1379	0.27	1511	0.35	1650	0.46	1786	0.58	1918	0.72
1900	1441	0.30	1566	0.39	1696	0.50	1827	0.62	1954	0.76
2000	1505	0.35	1623	0.43	1745	0.54	1870	0.66	1992	0.80

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
1200	1874	0.69	2000	0.84	2119	0.99	2232	1.16	2339	1.34
1300	1900	0.71	2025	0.86	2143	1.02	2254	1.19	2360	1.37
1400	1927	0.74	2051	0.89	2168	1.05	2278	1.22	2383	1.40
1500	1954	0.77	2078	0.92	2193	1.09	2303	1.26	2407	1.44
1600	1983	0.80	2105	0.96	2220	1.12	2329	1.30	2432	1.48
1700	2013	0.83	2133	0.99	2247	1.16	2356	1.34	2458	1.52
1800	2044	0.87	2163	1.03	2276	1.20	2383	1.38	2485	1.56
1900	2077	0.91	2194	1.07	2305	1.25	2411	1.42	2513	1.61
2000	2111	0.95	2226	1.12	2335	1.29	2440	1.47	2541	1.66

Standard Static 1031-1900 RPM, 0.72 Max BHP

Medium Static 1031-2170 RPM, 1.06 Max BHP

High Static 1031-2660 RPM, 1.96 Max BHP

**50JC\*\*05 THREE PHASE - STANDARD STATIC — 4 TON HORIZONTAL SUPPLY (RPM - VDC)**

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc
1200	1031	5.4	1235	6.5	1423	7.5	1589	8.4	1738	9.1
1300	1083	5.7	1274	6.7	1454	7.7	1618	8.5	1765	9.3
1400	1138	6.0	1316	6.9	1487	7.8	1647	8.7	1793	9.4
1500	1197	6.3	1361	7.2	1524	8.0	1678	8.8	1822	9.6
1600	1256	6.6	1409	7.4	1563	8.2	1712	9.0	1852	9.7
1700	1317	6.9	1459	7.7	1605	8.4	1748	9.2	1884	9.9
1800	1379	7.3	1511	8.0	1650	8.7	1786	9.4	—	—
1900	1441	7.6	1566	8.2	1696	8.9	1827	9.6	—	—
2000	1505	7.9	1623	8.5	1745	9.2	1870	9.8	—	—

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc
1200	1874	9.9	—	—	—	—	—	—	—	—
1300	1900	10.0	—	—	—	—	—	—	—	—
1400	—	—	—	—	—	—	—	—	—	—
1500	—	—	—	—	—	—	—	—	—	—
1600	—	—	—	—	—	—	—	—	—	—
1700	—	—	—	—	—	—	—	—	—	—
1800	—	—	—	—	—	—	—	—	—	—
1900	—	—	—	—	—	—	—	—	—	—
2000	—	—	—	—	—	—	—	—	—	—

Standard Static 1031-1900 RPM

## 50JC\*\*05 THREE PHASE - MEDIUM STATIC — 4 TON HORIZONTAL SUPPLY (RPM - VDC)

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc
1200	1031	4.8	1235	5.7	1423	6.6	1589	7.3	1738	8.0
1300	1083	5.0	1274	5.9	1454	6.7	1618	7.5	1765	8.1
1400	1138	5.2	1316	6.1	1487	6.9	1647	7.6	1793	8.3
1500	1197	5.5	1361	6.3	1524	7.0	1678	7.7	1822	8.4
1600	1256	5.8	1409	6.5	1563	7.2	1712	7.9	1852	8.5
1700	1317	6.1	1459	6.7	1605	7.4	1748	8.1	1884	8.7
1800	1379	6.4	1511	7.0	1650	7.6	1786	8.2	1918	8.8
1900	1441	6.6	1566	7.2	1696	7.8	1827	8.4	1954	9.0
2000	1505	6.9	1623	7.5	1745	8.0	1870	8.6	1992	9.2

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc
1200	1874	8.6	2000	9.2	2119	9.8	—	—	—	—
1300	1900	8.8	2025	9.3	2143	9.9	—	—	—	—
1400	1927	8.9	2051	9.5	2168	10.0	—	—	—	—
1500	1954	9.0	2078	9.6	—	—	—	—	—	—
1600	1983	9.1	2105	9.7	—	—	—	—	—	—
1700	2013	9.3	2133	9.8	—	—	—	—	—	—
1800	2044	9.4	2163	10.0	—	—	—	—	—	—
1900	2077	9.6	—	—	—	—	—	—	—	—
2000	2111	9.7	—	—	—	—	—	—	—	—

Medium Static 1031-2170 RPM

## 50JC\*\*05 THREE PHASE - HIGH STATIC — 4 TON HORIZONTAL SUPPLY (RPM - VDC)

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc
1200	1031	3.9	1235	4.6	1423	5.3	1589	6.0	1738	6.5
1300	1083	4.1	1274	4.8	1454	5.5	1618	6.1	1765	6.6
1400	1138	4.3	1316	4.9	1487	5.6	1647	6.2	1793	6.7
1500	1197	4.5	1361	5.1	1524	5.7	1678	6.3	1822	6.8
1600	1256	4.7	1409	5.3	1563	5.9	1712	6.4	1852	7.0
1700	1317	5.0	1459	5.5	1605	6.0	1748	6.6	1884	7.1
1800	1379	5.2	1511	5.7	1650	6.2	1786	6.7	1918	7.2
1900	1441	5.4	1566	5.9	1696	6.4	1827	6.9	1954	7.3
2000	1505	5.7	1623	6.1	1745	6.6	1870	7.0	1992	7.5

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc
1200	1874	7.0	2000	7.5	2119	8.0	2232	8.4	2339	8.8
1300	1900	7.1	2025	7.6	2143	8.1	2254	8.5	2360	8.9
1400	1927	7.2	2051	7.7	2168	8.2	2278	8.6	2383	9.0
1500	1954	7.3	2078	7.8	2193	8.2	2303	8.7	2407	9.0
1600	1983	7.5	2105	7.9	2220	8.3	2329	8.8	2432	9.1
1700	2013	7.6	2133	8.0	2247	8.4	2356	8.9	2458	9.2
1800	2044	7.7	2163	8.1	2276	8.6	2383	9.0	2485	9.3
1900	2077	7.8	2194	8.2	2305	8.7	2411	9.1	2513	9.4
2000	2111	7.9	2226	8.4	2335	8.8	2440	9.2	2541	9.6

High Static 1031-2660 RPM





**50JC\*\*06 THREE PHASE — 5 TON HORIZONTAL SUPPLY (RPM - BHP)**

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
1500	1197	0.18	1361	0.26	1524	0.36	1679	0.49	1822	0.62
1625	1271	0.21	1421	0.29	1573	0.40	1721	0.52	1860	0.66
1750	1348	0.25	1486	0.34	1627	0.44	1767	0.56	1901	0.70
1875	1426	0.30	1552	0.38	1684	0.49	1816	0.61	1945	0.75
2000	1505	0.35	1623	0.43	1745	0.54	1869	0.66	1992	0.80
2125	1585	0.40	1695	0.49	1809	0.60	1926	0.72	2043	0.86
2250	1666	0.47	1769	0.56	1876	0.67	1986	0.79	2096	0.93
2375	1748	0.54	1844	0.63	1945	0.74	2048	0.87	2153	1.01
2500	1830	0.62	1921	0.71	2016	0.82	2114	0.95	2213	1.09

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
1500	1954	0.77	2078	0.92	2194	1.09	2303	1.26	2407	1.44
1625	1990	0.81	2112	0.97	2227	1.13	2336	1.31	2439	1.49
1750	2028	0.85	2148	1.01	2262	1.18	2369	1.36	2472	1.54
1875	2068	0.90	2186	1.06	2298	1.23	2404	1.41	2506	1.60
2000	2111	0.95	2226	1.12	2335	1.29	2440	1.47	2541	1.66
2125	2157	1.02	2268	1.18	2375	1.36	2478	1.54	2577	1.73
2250	2206	1.08	2313	1.25	2417	1.43	2518	1.61	2615	1.81
2375	2257	1.16	2360	1.32	2461	1.50	2560	1.69	2655	1.89
2500	2312	1.24	2411	1.41	2508	1.59	2604	1.78	2697	1.97

Standard Static 1197-2150 RPM, 1.06 Max BHP

Medium Static 1197-2390 RPM, 1.44 Max BHP

High Static 1197-2836 RPM, 2.43 Max BHP

**50JC\*\*06 THREE PHASE - STANDARD STATIC — 5 TON HORIZONTAL SUPPLY (RPM - VDC)**

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc
1500	1197	5.6	1361	6.3	1524	7.1	1679	7.8	1822	8.5
1625	1271	5.9	1421	6.6	1573	7.3	1721	8.0	1860	8.7
1750	1348	6.3	1486	6.9	1627	7.6	1767	8.2	1901	8.8
1875	1426	6.6	1552	7.2	1684	7.8	1816	8.4	1945	9.0
2000	1505	7.0	1623	7.5	1745	8.1	1869	8.7	1992	9.3
2125	1585	7.4	1695	7.9	1809	8.4	1926	9.0	2043	9.5
2250	1666	7.7	1769	8.2	1876	8.7	1986	9.2	2096	9.7
2375	1748	8.1	1844	8.6	1945	9.0	2048	9.5	—	—
2500	1830	8.5	1921	8.9	2016	9.4	2114	9.8	—	—

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc
1500	1954	9.1	2078	9.7	—	—	—	—	—	—
1625	1990	9.3	2112	9.8	—	—	—	—	—	—
1750	2028	9.4	2148	10.0	—	—	—	—	—	—
1875	2068	9.6	—	—	—	—	—	—	—	—
2000	2111	9.8	—	—	—	—	—	—	—	—
2125	—	—	—	—	—	—	—	—	—	—
2250	—	—	—	—	—	—	—	—	—	—
2375	—	—	—	—	—	—	—	—	—	—
2500	—	—	—	—	—	—	—	—	—	—

Standard Static 1197-2150 RPM

## 50JC\*\*06 THREE PHASE - MEDIUM STATIC — 5 TON HORIZONTAL SUPPLY (RPM - VDC)

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc
1500	1197	5.0	1361	5.7	1524	6.4	1679	7.0	1822	7.6
1625	1271	5.3	1421	5.9	1573	6.6	1721	7.2	1860	7.8
1750	1348	5.6	1486	6.2	1627	6.8	1767	7.4	1901	8.0
1875	1426	6.0	1552	6.5	1684	7.0	1816	7.6	1945	8.1
2000	1505	6.3	1623	6.8	1745	7.3	1869	7.8	1992	8.3
2125	1585	6.6	1695	7.1	1809	7.6	1926	8.1	2043	8.5
2250	1666	7.0	1769	7.4	1876	7.8	1986	8.3	2096	8.8
2375	1748	7.3	1844	7.7	1945	8.1	2048	8.6	2153	9.0
2500	1830	7.7	1921	8.0	2016	8.4	2114	8.8	2213	9.3

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc
1500	1954	8.2	2078	8.7	2194	9.2	2303	9.6	—	—
1625	1990	8.3	2112	8.8	2227	9.3	2336	9.8	—	—
1750	2028	8.5	2148	9.0	2262	9.5	2369	9.9	—	—
1875	2068	8.7	2186	9.1	2298	9.6	—	—	—	—
2000	2111	8.8	2226	9.3	2335	9.8	—	—	—	—
2125	2157	9.0	2268	9.5	2375	9.9	—	—	—	—
2250	2206	9.2	2313	9.7	—	—	—	—	—	—
2375	2257	9.4	2360	9.9	—	—	—	—	—	—
2500	2312	9.7	—	—	—	—	—	—	—	—

Medium Static 1197-2390 RPM

## 50JC\*\*06 THREE PHASE - HIGH STATIC — 5 TON HORIZONTAL SUPPLY (RPM - VDC)

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc
1500	1197	4.2	1361	4.8	1524	5.4	1679	5.9	1822	6.4
1625	1271	4.5	1421	5.0	1573	5.5	1721	6.1	1860	6.6
1750	1348	4.8	1486	5.2	1627	5.7	1767	6.2	1901	6.7
1875	1426	5.0	1552	5.5	1684	5.9	1816	6.4	1945	6.9
2000	1505	5.3	1623	5.7	1745	6.2	1869	6.6	1992	7.0
2125	1585	5.6	1695	6.0	1809	6.4	1926	6.8	2043	7.2
2250	1666	5.9	1769	6.2	1876	6.6	1986	7.0	2096	7.4
2375	1748	6.2	1844	6.5	1945	6.9	2048	7.2	2153	7.6
2500	1830	6.5	1921	6.8	2016	7.1	2114	7.5	2213	7.8

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc	RPM	Vdc
1500	1954	6.9	2078	7.3	2194	7.7	2303	8.1	2407	8.5
1625	1990	7.0	2112	7.4	2227	7.9	2336	8.2	2439	8.6
1750	2028	7.2	2148	7.6	2262	8.0	2369	8.4	2472	8.7
1875	2068	7.3	2186	7.7	2298	8.1	2404	8.5	2506	8.8
2000	2111	7.4	2226	7.8	2335	8.2	2440	8.6	2541	9.0
2125	2157	7.6	2268	8.0	2375	8.4	2478	8.7	2577	9.1
2250	2206	7.8	2313	8.2	2417	8.5	2518	8.9	2615	9.2
2375	2257	8.0	2360	8.3	2461	8.7	2560	9.0	2655	9.4
2500	2312	8.2	2411	8.5	2508	8.8	2604	9.2	2697	9.5

High Static 1197-2836 RPM

## Legend and Notes

Applicable for Electrical Data Tables on pages 68 to 90

### LEGEND

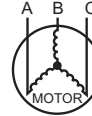
<b>BRKR</b>	— Circuit Breaker
<b>C.O.</b>	— Convenience Outlet
<b>FLA</b>	— Full Load Amps
<b>IFM</b>	— Indoor Fan Motor
<b>LRA</b>	— Locked Rotor Amps
<b>MCA</b>	— Minimum Circuit Amps
<b>P.E.</b>	— Power Exhaust
<b>Pwr'd fr/unit</b>	— Powered From Unit
<b>PWRD C.O.</b>	— Powered Convenience Outlet
<b>RLA</b>	— Rated Load Amps
<b>UNPWR C.O.</b>	— Unpowered Convenience Outlet

### NOTES:

1. In compliance with NEC requirements for multi-motor and combination load equipment (refer to NEC Articles 430 and 440), the overcurrent protective device for the unit shall be fuse or HACR breaker. Canadian units may be fuse or circuit breaker.
2. For 208/230 v units, where one value is show it is the same for either 208 or 230 volts.
3. **Unbalanced 3-Phase Supply Voltage**  
Never operate a motor where a phase imbalance in supply voltage is greater than 2%. Use the following formula to determine the percentage of voltage imbalance.

$$\% \text{ Voltage Imbalance} = 100 \times \frac{\text{max voltage deviation from average voltage}}{\text{average voltage}}$$

Example: Supply voltage is 230-3-60



AB = 224 v  
BC = 231 v  
AC = 226 v

$$\begin{aligned} \text{Average Voltage} &= \frac{(224 + 231 + 226)}{3} = \frac{681}{3} \\ &= 227 \end{aligned}$$

Determine maximum deviation from average voltage.

(AB) 227 - 224 = 3 v  
(BC) 231 - 227 = 4 v  
(AC) 227 - 226 = 1 v

Maximum deviation is 4 v.

Determine percent of voltage imbalance.

$$\begin{aligned} \% \text{ Voltage Imbalance} &= 100 \times \frac{4}{227} \\ &= 1.76\% \end{aligned}$$

This amount of phase imbalance is satisfactory as it is below the maximum allowable 2%.

**IMPORTANT:** If the supply voltage phase imbalance is more than 2%, contact your local electric utility company immediately.

# Electrical data (cont)



## 48/50JC\*\*04-06 COOLING ELECTRICAL DATA

48/50JC UNIT	V-Ph-Hz	UNIT VOLTAGE		COMPRESSOR		OFM (EA)		IFM			COMBUSTION FAN MOTOR (48JC ONLY)	POWER EXHAUST		
		RANGE		RLA	LRA	WATTS	FLA	TYPE	EFFCY AT FULL LOAD	FLA	FLA	KIT QTY	FLA (EA KIT)	
		MIN	MAX											
**04	208-3-60	187	253	10.2	38	275	1.5	STD	100%	3.4	0.48	1	1.9	
								MED	100%	5.1				
								HIGH	100%	7.3				
	230-3-60	187	253	10.2	38	275	1.5	1.5	STD	100%	3.4	0.48	1	1.9
									MED	100%	5.1			
									HIGH	100%	7.3			
	460-3-60	414	506	6.4	32	275	0.8	0.8	STD	300%	0.9	0.25	1	1.0
									MED	300%	1.2			
									HIGH	300%	1.5			
	575-3-60	518	633	3.8	18	275	0.6	0.6	STD	300%	0.8	0.24	1	1.9
									MED	300%	1.1			
									HIGH	300%	1.5			
**05	208-3-60	187	253	14.1	38	275	1.5	STD	100%	5.0	0.48	1	1.9	
								MED	100%	7.1				
								HIGH	300%	5.1				
	230-3-60	187	253	14.1	38	275	1.5	1.5	STD	100%	5.0	0.48	1	1.9
									MED	100%	7.1			
									HIGH	300%	5.1			
	460-3-60	414	506	8.3	38	275	0.8	0.8	STD	300%	1.2	0.25	1	1.0
									MED	300%	1.5			
									HIGH	300%	2.4			
	575-3-60	518	633	7.0	38	275	0.6	0.6	STD	300%	1.1	0.24	1	1.9
									MED	300%	1.5			
									HIGH	300%	2.1			
**06	208-3-60	187	253	14.1	38	275	1.5	STD	100%	7.2	0.48	1	1.9	
								MED	100%	8.6				
								HIGH	300%	6.4				
	230-3-60	187	253	14.1	38	275	1.5	1.5	STD	100%	7.2	0.48	1	1.9
									MED	100%	8.6			
									HIGH	300%	6.4			
	460-3-60	414	506	8.3	38	275	0.8	0.8	STD	300%	1.5	0.25	1	1.0
									MED	300%	1.9			
									HIGH	300%	2.9			
	575-3-60	518	633	7.0	38	275	0.6	0.6	STD	300%	1.5	0.24	1	1.9
									MED	300%	1.8			
									HIGH	300%	2.5			



**48JC\*\*04-06 MCA MOCP ELECTRICAL DATA**

48JC UNIT SIZE	NOM. V-Ph-Hz	IFM TYPE	NO CONVENIENCE OUTLET OR UNPOWERED CONVENIENCE OUTLET							
			NO POWER EXHAUST				w/ POWER EXHAUST (powered from unit)			
			MCA	FUSE OR HACR BREAKER	DISCONNECT SIZE		MCA	FUSE OR HACR BREAKER	DISCONNECT SIZE	
					FLA	LRA			FLA	LRA
**04	208/230-3-60	STD	18	25	17	47	20	25	20	49
		MED	20	25	19	49	22	30	22	51
		HIGH	22	30	22	52	24	30	24	54
	460-3-60	STD	10	15	9	35	11	15	10	36
		MED	10	15	10	36	11	15	11	37
		HIGH	11	15	10	36	12	15	11	37
	575-3-60	STD	7	15	6	21	9	15	8	23
		MED	7	15	6	22	9	15	9	24
		HIGH	7	15	7	22	9	15	9	24
**05	208/230-3-60	STD	25	30	24	49	26	30	26	51
		MED	27	30	26	52	29	40	28	54
		HIGH	25	30	24	49	27	30	26	51
	460-3-60	STD	13	20	12	42	14	20	13	43
		MED	13	20	12	42	14	20	13	43
		HIGH	14	20	13	43	15	20	14	44
	575-3-60	STD	11	15	10	42	13	15	12	44
		MED	11	15	10	42	13	15	13	44
		HIGH	12	15	11	43	14	20	13	45
**06	208/230-3-60	STD	27	30	26	52	29	40	28	54
		MED	28	40	28	54	30	40	30	56
		HIGH	26	30	25	51	28	40	27	53
	460-3-60	STD	13	20	12	42	14	20	13	43
		MED	14	20	13	43	15	20	14	44
		HIGH	15	20	14	44	16	20	15	45
	575-3-60	STD	11	15	10	42	13	15	13	44
		MED	12	15	11	43	14	20	13	45
		HIGH	12	15	12	44	14	20	14	46

## 48JC\*\*04-06 MCA MOCP ELECTRICAL DATA (cont)

48JC UNIT SIZE	NOM. V-Ph-Hz	IFM TYPE	w/ POWERED CONVENIENCE OUTLET							
			NO POWER EXHAUST				w/ POWER EXHAUST (powered from unit)			
			MCA	FUSE OR HACR BREAKER	DISCONNECT SIZE		MCA	FUSE OR HACR BREAKER	DISCONNECT SIZE	
					FLA	LRA			FLA	LRA
**04	208/230-3-60	STD	23	30	23	52	25	30	25	54
		MED	25	30	25	54	27	30	27	56
		HIGH	27	30	27	57	29	35	30	59
	460-3-60	STD	12	15	12	37	13	15	13	38
		MED	13	15	12	38	14	15	13	39
		HIGH	13	15	13	38	14	20	14	39
	575-3-60	STD	8	15	8	23	10	15	10	25
		MED	9	15	8	24	11	15	10	26
		HIGH	9	15	9	24	11	15	11	26
**05	208/230-3-60	STD	29	40	29	54	31	40	31	56
		MED	31	45	32	57	33	45	34	59
		HIGH	29	40	29	54	31	45	32	56
	460-3-60	STD	15	20	14	44	16	20	16	45
		MED	15	20	15	44	16	20	16	45
		HIGH	16	20	16	45	17	25	17	46
	575-3-60	STD	13	15	12	44	15	20	14	46
		MED	13	15	12	44	15	20	15	46
		HIGH	14	20	13	45	16	20	15	47
**06	208/230-3-60	STD	32	45	32	57	33	45	34	59
		MED	33	45	33	59	35	45	36	61
		HIGH	31	40	31	56	33	45	33	58
	460-3-60	STD	15	20	15	44	16	20	16	45
		MED	16	20	15	45	17	20	16	46
		HIGH	17	20	16	46	18	25	17	47
	575-3-60	STD	13	15	12	44	15	20	15	46
		MED	13	15	13	45	15	20	15	47
		HIGH	14	20	14	46	16	20	16	48



**48JC\*\*04-06 MCA MOCP ELECTRICAL DATA WITH FACTORY-INSTALLED HACR BREAKER**

48JC UNIT SIZE	NOM. V-Ph-Hz	IFM TYPE	NO CONVENIENCE OUTLET OR UNPOWERED CONVENIENCE OUTLET							
			NO POWER EXHAUST				w/ POWER EXHAUST (powered from unit)			
			MCA	HACR BREAKER	DISCONNECT SIZE		MCA	HACR BREAKER	DISCONNECT SIZE	
					FLA	LRA			FLA	LRA
<b>**04</b>	208/230-3-60	STD	18	25	17	47	20	25	20	49
		MED	20	25	19	49	22	30	22	51
		HIGH	22	30	22	52	24	30	24	54
	460-3-60	STD	10	15	9	35	11	15	10	36
		MED	10	15	10	36	11	15	11	37
		HIGH	11	15	10	36	12	15	11	37
	575-3-60	STD	7	15	6	21	9	15	8	23
		MED	7	15	6	22	9	15	9	24
		HIGH	7	15	7	22	9	15	9	24
<b>**05</b>	208/230-3-60	STD	25	30	24	49	26	30	26	51
		MED	27	30	26	52	29	40	28	54
		HIGH	25	30	24	49	27	30	26	51
	460-3-60	STD	13	20	12	42	14	20	13	43
		MED	13	20	12	42	14	20	13	43
		HIGH	14	20	13	43	15	20	14	44
	575-3-60	STD	11	15	10	42	13	15	12	44
		MED	11	15	10	42	13	15	13	44
		HIGH	12	15	11	43	14	20	13	45
<b>**06</b>	208/230-3-60	STD	27	30	26	52	29	40	28	54
		MED	28	40	28	54	30	40	30	56
		HIGH	26	30	25	51	28	40	27	53
	460-3-60	STD	13	20	12	42	14	20	13	43
		MED	14	20	13	43	15	20	14	44
		HIGH	15	20	14	44	16	20	15	45
	575-3-60	STD	11	15	10	42	13	15	13	44
		MED	12	15	11	43	14	20	13	45
		HIGH	12	15	12	44	14	20	14	46

# Electrical data (cont)



## 48JC\*\*04-06 MCA MOCP ELECTRICAL DATA WITH FACTORY-INSTALLED HACR BREAKER (cont)

48JC UNIT SIZE	NOM. V-Ph-Hz	IFM TYPE	w/ POWERED CONVENIENCE OUTLET							
			NO POWER EXHAUST				w/ POWER EXHAUST (powered from unit)			
			MCA	HACR BREAKER	DISCONNECT SIZE		MCA	HACR BREAKER	DISCONNECT SIZE	
					FLA	LRA			FLA	LRA
**04	208/230-3-60	STD	23	30	23	52	25	30	25	54
		MED	25	30	25	54	27	30	27	56
		HIGH	27	30	27	57	29	35	30	59
	460-3-60	STD	12	15	12	37	13	15	13	38
		MED	13	15	12	38	14	15	13	39
		HIGH	13	15	13	38	14	20	14	39
	575-3-60	STD	8	15	8	23	10	15	10	25
		MED	9	15	8	24	11	15	10	26
		HIGH	9	15	9	24	11	15	11	26
**05	208/230-3-60	STD	29	40	29	54	31	40	31	56
		MED	31	45	32	57	33	45	34	59
		HIGH	29	40	29	54	31	45	32	56
	460-3-60	STD	15	20	14	44	16	20	16	45
		MED	15	20	15	44	16	20	16	45
		HIGH	16	20	16	45	17	25	17	46
	575-3-60	STD	13	15	12	44	15	20	14	46
		MED	13	15	12	44	15	20	15	46
		HIGH	14	20	13	45	16	20	15	47
**06	208/230-3-60	STD	32	45	32	57	33	45	34	59
		MED	33	45	33	59	35	45	36	61
		HIGH	31	40	31	56	33	45	33	58
	460-3-60	STD	15	20	15	44	16	20	16	45
		MED	16	20	15	45	17	20	16	46
		HIGH	17	20	16	46	18	25	17	47
	575-3-60	STD	13	15	12	44	15	20	15	46
		MED	13	15	13	45	15	20	15	47
		HIGH	14	20	14	46	16	20	16	48





### 50JC\*\*04 MCA MOCP ELECTRICAL DATA

50JC UNIT SIZE	NOM. V-Ph-Hz	IFM TYPE	ELECTRIC HEATER			NO CONVENIENCE OUTLET OR UNPOWERED CONVENIENCE OUTLET									
			CRHEATER ****00	NOM (kW)	FLA	NO POWER EXHAUST				w/ POWER EXHAUST (powered from unit)					
						MCA	FUSE OR HACR BRKR	DISCONNECT SIZE		MCA	FUSE OR HACR BRKR	DISCONNECT SIZE			
								FLA	LRA			FLA	LRA		
<b>**04</b>	208/230-3-60	STD	NONE	—	—	18	25	17	47	20	25	20	49		
			323A	3.3/4.4	9.2/10.6	18/18	25/25	17/17	47/47	20/20	25/25	20/20	49/49		
			324A	4.9/6.5	13.6/15.6	22/24	25/25	20/22	47/47	24/27	25/30	22/24	49/49		
			325A	6.5/8.7	18.1/20.9	27/31	30/35	25/28	47/47	30/33	30/35	27/30	49/49		
			326A	7.9/10.5	21.9/25.3	32/36	35/40	29/33	47/47	34/39	35/40	31/35	49/49		
			328A	12.0/16.0	33.4/38.5	46/53	50/60	42/48	47/47	49/55	50/60	45/50	49/49		
		MED	NONE	—	—	20	25	19	49	22	30	22	51		
			323A	3.3/4.4	9.2/10.6	20/20	25/25	19/19	49/49	22/22	30/30	22/22	51/51		
			324A	4.9/6.5	13.6/15.6	24/26	25/30	22/24	49/49	26/29	30/30	24/26	51/51		
			325A	6.5/8.7	18.1/20.9	29/33	30/35	27/30	49/49	32/35	35/35	29/32	51/51		
			326A	7.9/10.5	21.9/25.3	34/38	35/40	31/35	49/49	37/41	40/45	33/37	51/51		
			328A	12.0/16.0	33.4/38.5	49/55	50/60	44/50	49/49	51/57	60/60	46/52	51/51		
		HIGH	NONE	—	—	22	30	22	52	24	30	24	54		
			323A	3.3/4.4	9.2/10.6	22/23	30/30	22/22	52/52	24/25	30/30	24/24	54/54		
			324A	4.9/6.5	13.6/15.6	27/29	30/30	24/26	52/52	29/31	30/35	26/29	54/54		
			325A	6.5/8.7	18.1/20.9	32/36	35/40	29/32	52/52	35/38	35/40	31/35	54/54		
			326A	7.9/10.5	21.9/25.3	37/41	40/45	34/37	52/52	39/44	40/45	36/40	54/54		
			328A	12.0/16.0	33.4/38.5	51/58	60/60	47/53	52/52	54/60	60/60	49/55	54/54		
	460-3-60	STD	NONE	—	—	10	15	9	35	11	15	10	36		
			333A	6.0	7.2	11	15	9	35	12	15	10	36		
			334A	8.8	10.6	15	15	13	35	16	20	14	36		
			335A	11.5	13.8	19	20	17	35	20	20	18	36		
			336A	14.0	16.8	23	25	20	35	24	25	22	36		
			NONE	—	—	10	15	10	36	11	15	11	37		
		MED	333A	6.0	7.2	11	15	10	36	12	15	11	37		
			334A	8.8	10.6	15	15	14	36	16	20	15	37		
			335A	11.5	13.8	19	20	17	36	20	25	18	37		
			336A	14.0	16.8	23	25	21	36	24	25	22	37		
			NONE	—	—	11	15	10	36	12	15	11	37		
			333A	6.0	7.2	11	15	10	36	13	15	11	37		
		HIGH	334A	8.8	10.6	16	20	14	36	17	20	15	37		
			335A	11.5	13.8	20	20	18	36	21	25	19	37		
			336A	14.0	16.8	23	25	21	36	25	25	22	37		
			NONE	—	—	7	15	6	21	9	15	8	23		
			575-3-60	STD	339A	10.0	9.6	13	15	12	21	16	20	14	23
					340A	15.0	14.4	19	20	17	21	22	25	20	23
NONE	—	—			7	15	6	22	9	15	9	24			
MED	339A	10.0		9.6	14	15	12	22	16	20	14	24			
	340A	15.0		14.4	20	20	18	22	22	25	20	24			
	NONE	—		—	7	15	7	22	9	15	9	24			
HIGH	339A	10.0	9.6	14	15	13	22	17	20	15	24				
	340A	15.0	14.4	20	20	18	22	23	25	20	24				

## 50JC\*\*04 MCA MOCP ELECTRICAL DATA (cont)

50JC UNIT SIZE	NOM. V-Ph-Hz	IFM TYPE	ELECTRIC HEATER			w/ POWERED CONVENIENCE OUTLET							
			CRHEATER ****00	NOM (kW)	FLA	NO POWER EXHAUST				w/ POWER EXHAUST (powered from unit)			
						MCA	FUSE OR HACR BRKR	DISCONNECT SIZE		MCA	FUSE OR HACR BRKR	DISCONNECT SIZE	
								FLA	LRA			FLA	LRA
**04	208/230-3-60	STD	NONE	—	—	23	30	23	52	25	30	25	54
			323A	3.3/4.4	9.2/10.6	23/24	30/30	23/23	52/52	25/26	30/30	25/25	54/54
			324A	4.9/6.5	13.6/15.6	28/30	30/30	25/27	52/52	30/33	30/35	27/30	54/54
			325A	6.5/8.7	18.1/20.9	33/37	35/40	30/33	52/52	36/39	40/40	32/36	54/54
			326A	7.9/10.5	21.9/25.3	38/42	40/45	35/39	52/52	40/45	45/45	37/41	54/54
			328A	12.0/16.0	33.4/38.5	52/59	60/60	48/54	52/52	55/61	60/70	50/56	54/54
		MED	NONE	—	—	25	30	25	54	27	30	27	56
			323A	3.3/4.4	9.2/10.6	25/26	30/30	25/25	54/54	27/28	30/30	27/27	56/56
			324A	4.9/6.5	13.6/15.6	30/32	30/35	27/29	54/54	32/35	35/35	29/32	56/56
			325A	6.5/8.7	18.1/20.9	35/39	40/40	32/35	54/54	38/41	40/45	34/38	56/56
			326A	7.9/10.5	21.9/25.3	40/44	40/45	37/40	54/54	43/47	45/50	39/43	56/56
			328A	12.0/16.0	33.4/38.5	55/61	60/70	50/56	54/54	57/63	60/70	52/58	56/56
		HIGH	NONE	—	—	27	30	27	57	29	35	30	59
			323A	3.3/4.4	9.2/10.6	27/29	30/30	27/27	57/57	29/31	35/35	30/30	59/59
			324A	4.9/6.5	13.6/15.6	33/35	35/35	30/32	57/57	35/37	35/40	32/34	59/59
			325A	6.5/8.7	18.1/20.9	38/42	40/45	35/38	57/57	41/44	45/45	37/40	59/59
			326A	7.9/10.5	21.9/25.3	43/47	45/50	39/43	57/57	45/50	45/50	41/45	59/59
			328A	12.0/16.0	33.4/38.5	57/64	60/70	52/58	57/57	60/66	60/70	55/60	59/59
	460-3-60	STD	NONE	—	—	12	15	12	37	13	15	13	38
			333A	6.0	7.2	13	15	12	37	15	15	13	38
			334A	8.8	10.6	18	20	16	37	19	20	17	38
			335A	11.5	13.8	22	25	19	37	23	25	21	38
			336A	14.0	16.8	25	25	23	37	27	30	24	38
			NONE	—	—	13	15	12	38	14	15	13	39
		MED	333A	6.0	7.2	14	15	12	38	15	15	13	39
			334A	8.8	10.6	18	20	16	38	19	20	17	39
			335A	11.5	13.8	22	25	20	38	23	25	21	39
			336A	14.0	16.8	26	30	23	38	27	30	24	39
			NONE	—	—	13	15	13	38	14	20	14	39
			333A	6.0	7.2	14	15	13	38	15	20	14	39
		HIGH	334A	8.8	10.6	18	20	16	38	20	20	18	39
			335A	11.5	13.8	22	25	20	38	24	25	21	39
			336A	14.0	16.8	26	30	24	38	27	30	25	39
			NONE	—	—	8	15	8	23	10	15	10	25
			339A	10.0	9.6	16	20	14	23	18	20	16	25
			340A	15.0	14.4	22	25	19	23	24	25	22	25
575-3-60	STD	NONE	—	—	9	15	8	24	11	15	10	26	
		339A	10.0	9.6	16	20	14	24	18	20	16	26	
		340A	15.0	14.4	22	25	20	24	24	25	22	26	
	MED	NONE	—	—	9	15	9	24	11	15	11	26	
		339A	10.0	9.6	16	20	15	24	19	20	17	26	
		340A	15.0	14.4	22	25	20	24	25	25	22	26	
HIGH	NONE	—	—	9	15	9	24	11	15	11	26		
	339A	10.0	9.6	16	20	15	24	19	20	17	26		
	340A	15.0	14.4	22	25	20	24	25	25	22	26		



**50JC\*\*04 MCA MOCP ELECTRICAL DATA — WITH FACTORY-INSTALLED HACR BREAKER**

50JC UNIT SIZE	NOM. V-Ph-Hz	IFM TYPE	ELECTRIC HEATER			NO CONVENIENCE OUTLET OR UNPOWERED CONVENIENCE OUTLET								
			CRHEATER ****00	NOM (kW)	FLA	NO POWER EXHAUST				w/ POWER EXHAUST (powered from unit)				
						MCA	HACR BRKR	DISCONNECT SIZE		MCA	HACR BRKR	DISCONNECT SIZE		
								FLA	LRA			FLA	LRA	
<b>**04</b>	208/230-3-60	STD	NONE	—	—	18	25	17	47	20	25	20	49	
			323A	3.3/4.4	9.2/10.6	18/18	25/25	17/17	47/47	20/20	25/25	20/20	49/49	
			324A	4.9/6.5	13.6/15.6	24/24	25/25	20/22	47/47	27/27	30/30	22/24	49/49	
			325A	6.5/8.7	18.1/20.9	31/31	35/35	25/28	47/47	33/33	35/35	27/30	49/49	
			326A	7.9/10.5	21.9/25.3	36/36	40/40	29/33	47/47	39/39	40/40	31/35	49/49	
		328A	12.0/16.0	33.4/38.5	53/53	60/60	42/48	47/47	55/55	60/60	45/50	49/49		
		MED	NONE	—	—	20	25	19	49	22	30	22	51	
			323A	3.3/4.4	9.2/10.6	20/20	25/25	19/19	49/49	22/22	30/30	22/22	51/51	
			324A	4.9/6.5	13.6/15.6	26/26	30/30	22/24	49/49	29/29	30/30	24/26	51/51	
			325A	6.5/8.7	18.1/20.9	33/33	35/35	27/30	49/49	35/35	35/35	29/32	51/51	
			326A	7.9/10.5	21.9/25.3	38/38	40/40	31/35	49/49	41/41	45/45	33/37	51/51	
		328A	12.0/16.0	33.4/38.5	55/55	60/60	44/50	49/49	57/57	60/60	46/52	51/51		
		HIGH	NONE	—	—	22	30	22	52	24	30	24	54	
			323A	3.3/4.4	9.2/10.6	23/23	30/30	22/22	52/52	25/25	30/30	24/24	54/54	
			324A	4.9/6.5	13.6/15.6	29/29	30/30	24/26	52/52	31/31	35/35	26/29	54/54	
			325A	6.5/8.7	18.1/20.9	36/36	40/40	29/32	52/52	38/38	40/40	31/35	54/54	
			326A	7.9/10.5	21.9/25.3	41/41	45/45	34/37	52/52	44/44	45/45	36/40	54/54	
		328A	12.0/16.0	33.4/38.5	58/58	60/60	47/53	52/52	60/60	60/60	49/55	54/54		
		460-3-60	STD	NONE	—	—	10	15	9	35	11	15	10	36
				333A	6.0	7.2	11	15	9	35	12	15	10	36
				334A	8.8	10.6	15	15	13	35	16	20	14	36
				335A	11.5	13.8	19	20	17	35	20	20	18	36
				336A	14.0	16.8	23	25	20	35	24	25	22	36
			MED	NONE	—	—	10	15	10	36	11	15	11	37
	333A			6.0	7.2	11	15	10	36	12	15	11	37	
	334A			8.8	10.6	15	15	14	36	16	20	15	37	
	335A			11.5	13.8	19	20	17	36	20	25	18	37	
	336A			14.0	16.8	23	25	21	36	24	25	22	37	
	HIGH		NONE	—	—	11	15	10	36	12	15	11	37	
			333A	6.0	7.2	11	15	10	36	13	15	11	37	
			334A	8.8	10.6	16	20	14	36	17	20	15	37	
			335A	11.5	13.8	20	20	18	36	21	25	19	37	
			336A	14.0	16.8	23	25	21	36	25	25	22	37	
	575-3-60		STD	NONE	—	—	7	15	6	21	9	15	8	23
				339A	10.0	9.6	13	15	12	21	16	20	14	23
				340A	15.0	14.4	19	20	17	21	22	25	20	23
			MED	NONE	—	—	7	15	6	22	9	15	9	24
				339A	10.0	9.6	14	15	12	22	16	20	14	24
				340A	15.0	14.4	20	20	18	22	22	25	20	24
			HIGH	NONE	—	—	7	15	7	22	9	15	9	24
				339A	10.0	9.6	14	15	13	22	17	20	15	24
				340A	15.0	14.4	20	20	18	22	23	25	20	24
		340A		15.0	14.4	20	20	18	22	23	25	20	24	

## 50JC\*\*04 MCA MOCP ELECTRICAL DATA — WITH FACTORY-INSTALLED HACR BREAKER (cont)

50JC UNIT SIZE	NOM. V-Ph-Hz	IFM TYPE	ELECTRIC HEATER			w/ POWERED CONVENIENCE OUTLET								
			CRHEATER ****00	NOM (kW)	FLA	NO POWER EXHAUST				w/ POWER EXHAUST (powered from unit)				
						MCA	HACR BRKR	DISCONNECT SIZE		MCA	HACR BRKR	DISCONNECT SIZE		
								FLA	LRA			FLA	LRA	
**04	208/230-3-60	STD	NONE	—	—	23	30	23	52	25	30	25	54	
			323A	3.3/4.4	9.2/10.6	24/24	30/30	23/23	52/52	26/26	30/30	25/25	54/54	
			324A	4.9/6.5	13.6/15.6	30/30	30/30	25/27	52/52	33/33	35/35	27/30	54/54	
			325A	6.5/8.7	18.1/20.9	37/37	40/40	30/33	52/52	39/39	40/40	32/36	54/54	
			326A	7.9/10.5	21.9/25.3	42/42	45/45	35/39	52/52	45/45	45/45	37/41	54/54	
		328A	12.0/16.0	33.4/38.5	59/59	60/60	48/54	52/52	61/61	70/70	50/56	54/54		
		MED	NONE	—	—	25	30	25	54	27	30	27	56	
			323A	3.3/4.4	9.2/10.6	26/26	30/30	25/25	54/54	28/28	30/30	27/27	56/56	
			324A	4.9/6.5	13.6/15.6	32/32	35/35	27/29	54/54	35/35	35/35	29/32	56/56	
			325A	6.5/8.7	18.1/20.9	39/39	40/40	32/35	54/54	41/41	45/45	34/38	56/56	
			326A	7.9/10.5	21.9/25.3	44/44	45/45	37/40	54/54	47/47	50/50	39/43	56/56	
		328A	12.0/16.0	33.4/38.5	61/61	70/70	50/56	54/54	63/63	70/70	52/58	56/56		
		HIGH	NONE	—	—	27	30	27	57	29	35	30	59	
			323A	3.3/4.4	9.2/10.6	29/29	30/30	27/27	57/57	31/31	35/35	30/30	59/59	
			324A	4.9/6.5	13.6/15.6	35/35	35/35	30/32	57/57	37/37	40/40	32/34	59/59	
			325A	6.5/8.7	18.1/20.9	42/42	45/45	35/38	57/57	44/44	45/45	37/40	59/59	
			326A	7.9/10.5	21.9/25.3	47/47	50/50	39/43	57/57	50/50	50/50	41/45	59/59	
		328A	12.0/16.0	33.4/38.5	64/64	70/70	52/58	57/57	66/66	70/70	55/60	59/59		
	460-3-60	STD	NONE	—	—	12	15	12	37	13	15	13	38	
			333A	6.0	7.2	13	15	12	37	15	15	13	38	
			334A	8.8	10.6	18	20	16	37	19	20	17	38	
			335A	11.5	13.8	22	25	19	37	23	25	21	38	
			336A	14.0	16.8	25	25	23	37	27	30	24	38	
		MED	NONE	—	—	13	15	12	38	14	15	13	39	
			333A	6.0	7.2	14	15	12	38	15	15	13	39	
			334A	8.8	10.6	18	20	16	38	19	20	17	39	
			335A	11.5	13.8	22	25	20	38	23	25	21	39	
			336A	14.0	16.8	26	30	23	38	27	30	24	39	
		HIGH	NONE	—	—	13	15	13	38	14	20	14	39	
			333A	6.0	7.2	14	15	13	38	15	20	14	39	
			334A	8.8	10.6	18	20	16	38	20	20	18	39	
			335A	11.5	13.8	22	25	20	38	24	25	21	39	
			336A	14.0	16.8	26	30	24	38	27	30	25	39	
		575-3-60	STD	NONE	—	—	8	15	8	23	10	15	10	25
				339A	10.0	9.6	16	20	14	23	18	20	16	25
				340A	15.0	14.4	22	25	19	23	24	25	22	25
MED	NONE		—	—	9	15	8	24	11	15	10	26		
	339A		10.0	9.6	16	20	14	24	18	20	16	26		
	340A		15.0	14.4	22	25	20	24	24	25	22	26		
HIGH	NONE		—	—	9	15	9	24	11	15	11	26		
	339A		10.0	9.6	16	20	15	24	19	20	17	26		
	340A		15.0	14.4	22	25	20	24	25	25	22	26		
	340A		15.0	14.4	22	25	20	24	25	25	22	26		



### 50JC\*\*05 MCA MOCP ELECTRICAL DATA

50JC UNIT SIZE	NOM. V-Ph-Hz	IFM TYPE	ELECTRIC HEATER			NO CONVENIENCE OUTLET OR UNPOWERED CONVENIENCE OUTLET								
			CRHEATER ****00	NOM (kW)	FLA	NO POWER EXHAUST				w/ POWER EXHAUST (powered from unit)				
						MCA	FUSE OR HACR BRKR	DISCONNECT SIZE		MCA	FUSE OR HACR BRKR	DISCONNECT SIZE		
								FLA	LRA			FLA	LRA	
<b>**05</b>	208/230-3-60	STD	NONE	—	—	25	30	24	49	26	30	26	51	
			323A	3.3/4.4	9.2/10.6	25/25	30/30	24/24	49/49	26/26	30/30	26/26	51/51	
			324A	4.9/6.5	13.6/15.6	25/26	30/30	24/24	49/49	26/29	30/30	26/26	51/51	
			325A	6.5/8.7	18.1/20.9	29/33	30/35	27/30	49/49	32/35	40/40	29/32	51/51	
			328A	12.0/16.0	33.4/38.5	48/55	50/60	44/50	49/49	51/57	60/60	46/52	51/51	
			330A	14.4/19.2	40.0/46.2	57/64	60/70	52/59	49/49	59/67	60/70	54/61	51/51	
		331A	15.8/21.0	43.8/50.5	61/70	70/70	56/64	49/49	64/72	70/80	58/66	51/51		
		MED	NONE	—	—	27	30	26	52	29	40	28	54	
			323A	3.3/4.4	9.2/10.6	27/27	30/30	26/26	52/52	29/29	40/40	28/28	54/54	
			324A	4.9/6.5	13.6/15.6	27/29	30/30	26/26	52/52	29/31	40/40	28/28	54/54	
			325A	6.5/8.7	18.1/20.9	32/35	40/40	29/32	52/52	34/38	40/40	31/34	54/54	
			328A	12.0/16.0	33.4/38.5	51/57	60/60	47/52	52/52	53/60	60/60	49/55	54/54	
			330A	14.4/19.2	40.0/46.2	59/67	60/70	54/61	52/52	62/69	70/70	56/63	54/54	
		331A	15.8/21.0	43.8/50.5	64/72	70/80	59/66	52/52	66/75	70/80	61/68	54/54		
		HIGH	NONE	—	—	25	30	24	49	27	30	26	51	
			323A	3.3/4.4	9.2/10.6	25/25	30/30	24/24	49/49	27/27	30/30	26/26	51/51	
			324A	4.9/6.5	13.6/15.6	25/26	30/30	24/24	49/49	27/29	30/30	26/26	51/51	
			325A	6.5/8.7	18.1/20.9	29/33	30/35	27/30	49/49	32/35	40/40	29/32	51/51	
			328A	12.0/16.0	33.4/38.5	49/55	50/60	44/50	49/49	51/57	60/60	46/52	51/51	
			330A	14.4/19.2	40.0/46.2	57/65	60/70	52/59	49/49	59/67	60/70	54/61	51/51	
		331A	15.8/21.0	43.8/50.5	62/70	70/70	56/64	49/49	64/72	70/80	58/66	51/51		
		460-3-60	STD	NONE	—	—	13	20	12	42	14	20	13	43
				333A	6.0	7.2	13	20	12	42	14	20	13	43
				335A	11.5	13.8	19	20	17	42	20	25	18	43
	336A			14.0	16.8	23	25	21	42	24	25	22	43	
	337A		21.5	25.9	34	35	31	42	36	40	32	43		
	MED		NONE	—	—	13	20	12	42	14	20	13	43	
			333A	6.0	7.2	13	20	12	42	14	20	13	43	
			335A	11.5	13.8	20	20	18	42	21	25	19	43	
			336A	14.0	16.8	23	25	21	42	25	25	22	43	
	337A		21.5	25.9	35	35	32	42	36	40	33	43		
	HIGH		NONE	—	—	14	20	13	43	15	20	14	44	
			333A	6.0	7.2	14	20	13	43	15	20	14	44	
			335A	11.5	13.8	21	25	19	43	22	25	20	44	
			336A	14.0	16.8	24	25	22	43	26	30	23	44	
	337A		21.5	25.9	36	40	33	43	37	40	34	44		
575-3-60	STD		NONE	—	—	11	15	10	42	13	15	12	44	
			339A	10.0	9.6	14	15	12	42	16	20	14	44	
			340A	15.0	14.4	20	20	18	42	22	25	20	44	
	MED	NONE	—	—	11	15	10	42	13	15	13	44		
		339A	10.0	9.6	14	15	13	42	17	20	15	44		
		340A	15.0	14.4	20	20	18	42	23	25	20	44		
	HIGH	NONE	—	—	12	15	11	43	14	20	13	45		
		339A	10.0	9.6	15	15	13	43	17	20	16	45		
		340A	15.0	14.4	21	25	19	43	23	25	21	45		

## 50JC\*\*05 MCA MOCP ELECTRICAL DATA (cont)

50JC UNIT SIZE	NOM. V-Ph-Hz	IFM TYPE	ELECTRIC HEATER			w/ POWERED CONVENIENCE OUTLET								
			CRHEATER ****00	NOM (kW)	FLA	NO POWER EXHAUST				w/ POWER EXHAUST (powered from unit)				
						MCA	FUSE OR HACR BRKR	DISCONNECT SIZE		MCA	FUSE OR HACR BRKR	DISCONNECT SIZE		
								FLA	LRA			FLA	LRA	
**05	208/230-3-60	STD	NONE	—	—	29	40	29	54	31	40	31	56	
			323A	3.3/4.4	9.2/10.6	29/29	40/40	29/29	54/54	31/31	40/40	31/31	56/56	
			324A	4.9/6.5	13.6/15.6	30/32	40/40	29/29	54/54	32/35	40/40	31/31	56/56	
			325A	6.5/8.7	18.1/20.9	35/39	40/40	32/35	54/54	38/41	40/45	34/37	56/56	
			328A	12.0/16.0	33.4/38.5	54/61	60/70	50/56	54/54	57/63	60/70	52/58	56/56	
			330A	14.4/19.2	40.0/46.2	63/70	70/80	57/64	54/54	65/73	70/80	59/67	56/56	
		331A	15.8/21.0	43.8/50.5	67/76	70/80	62/69	54/54	70/78	70/80	64/72	56/56		
		MED	NONE	—	—	31	45	32	57	33	45	34	59	
			323A	3.3/4.4	9.2/10.6	31/31	45/45	32/32	57/57	33/33	45/45	34/34	59/59	
			324A	4.9/6.5	13.6/15.6	32/35	45/45	32/32	57/57	35/37	45/45	34/34	59/59	
			325A	6.5/8.7	18.1/20.9	38/41	45/45	35/38	57/57	40/44	45/45	37/40	59/59	
			328A	12.0/16.0	33.4/38.5	57/63	60/70	52/58	57/57	59/66	60/70	54/60	59/59	
			330A	14.4/19.2	40.0/46.2	65/73	70/80	60/67	57/57	68/75	70/80	62/69	59/59	
		331A	15.8/21.0	43.8/50.5	70/78	70/80	64/72	57/57	72/81	80/90	66/74	59/59		
		HIGH	NONE	—	—	29	40	29	54	31	45	32	56	
			323A	3.3/4.4	9.2/10.6	29/29	40/40	29/29	54/54	31/31	45/45	32/32	56/56	
			324A	4.9/6.5	13.6/15.6	30/32	40/40	29/29	54/54	32/35	45/45	32/32	56/56	
			325A	6.5/8.7	18.1/20.9	35/39	40/40	32/35	54/54	38/41	45/45	34/38	56/56	
			328A	12.0/16.0	33.4/38.5	55/61	60/70	50/56	54/54	57/63	60/70	52/58	56/56	
			330A	14.4/19.2	40.0/46.2	63/71	70/80	57/65	54/54	65/73	70/80	60/67	56/56	
		331A	15.8/21.0	43.8/50.5	68/76	70/80	62/69	54/54	70/78	70/80	64/72	56/56		
		460-3-60	STD	NONE	—	—	15	20	14	44	16	20	16	45
				333A	6.0	7.2	15	20	14	44	16	20	16	45
				335A	11.5	13.8	22	25	20	44	23	25	21	45
	336A			14.0	16.8	26	30	23	44	27	30	24	45	
	337A		21.5	25.9	37	40	34	44	38	40	35	45		
	MED		NONE	—	—	15	20	15	44	16	20	16	45	
			333A	6.0	7.2	15	20	15	44	16	20	16	45	
335A			11.5	13.8	22	25	20	44	24	25	21	45		
336A			14.0	16.8	26	30	24	44	27	30	25	45		
337A	21.5		25.9	37	40	34	44	39	40	35	45			
HIGH	NONE		—	—	16	20	16	45	17	25	17	46		
	333A		6.0	7.2	16	20	16	45	17	25	17	46		
	335A		11.5	13.8	23	25	21	45	25	25	22	46		
	336A		14.0	16.8	27	30	25	45	28	30	26	46		
337A	21.5		25.9	39	40	35	45	40	40	36	46			
575-3-60	STD		NONE	—	—	13	15	12	44	15	20	14	46	
			339A	10.0	9.6	16	20	14	44	18	20	16	46	
			340A	15.0	14.4	22	25	20	44	24	25	22	46	
	MED	NONE	—	—	13	15	12	44	15	20	15	46		
		339A	10.0	9.6	16	20	15	44	19	20	17	46		
		340A	15.0	14.4	22	25	20	44	25	25	22	46		
	HIGH	NONE	—	—	14	20	13	45	16	20	15	47		
		339A	10.0	9.6	17	20	15	45	20	20	18	47		
		340A	15.0	14.4	23	25	21	45	26	30	23	47		



**50JC\*\*05 MCA MOCP ELECTRICAL DATA — WITH FACTORY-INSTALLED HACR BREAKER**

50JC UNIT SIZE	NOM. V-Ph-Hz	IFM TYPE	ELECTRIC HEATER			NO CONVENIENCE OUTLET OR UNPOWERED CONVENIENCE OUTLET							
			CRHEATER ****00	NOM (kW)	FLA	NO POWER EXHAUST				w/ POWER EXHAUST (powered from unit)			
						MCA	HACR BRKR	DISCONNECT SIZE		MCA	HACR BRKR	DISCONNECT SIZE	
								FLA	LRA			FLA	LRA
<b>**05</b>	208/230-3-60	STD	NONE	—	—	25	30	24	49	26	30	26	51
			323A	3.3/4.4	9.2/10.6	25/25	30/30	24/24	49/49	26/26	30/30	26/26	51/51
			324A	4.9/6.5	13.6/15.6	26/26	30/30	24/24	49/49	29/29	30/30	26/26	51/51
			325A	6.5/8.7	18.1/20.9	33/33	35/35	27/30	49/49	35/35	40/40	29/32	51/51
			328A	12.0/16.0	33.4/38.5	55/55	60/60	44/50	49/49	57/57	60/60	46/52	51/51
			330A	14.4/19.2	40.0/46.2	64/64	70/70	52/59	49/49	67/67	70/70	54/61	51/51
		331A	15.8/21.0	43.8/50.5	70/70	70/70	56/64	49/49	72/72	80/80	58/66	51/51	
		MED	NONE	—	—	27	30	26	52	29	40	28	54
			323A	3.3/4.4	9.2/10.6	27/27	30/30	26/26	52/52	29/29	40/40	28/28	54/54
			324A	4.9/6.5	13.6/15.6	29/29	30/30	26/26	52/52	31/31	40/40	28/28	54/54
			325A	6.5/8.7	18.1/20.9	35/35	40/40	29/32	52/52	38/38	40/40	31/34	54/54
			328A	12.0/16.0	33.4/38.5	57/57	60/60	47/52	52/52	60/60	60/60	49/55	54/54
			330A	14.4/19.2	40.0/46.2	67/67	70/70	54/61	52/52	69/69	70/70	56/63	54/54
		331A	15.8/21.0	43.8/50.5	72/72	80/80	59/66	52/52	75/75	80/80	61/68	54/54	
		HIGH	NONE	—	—	25	30	24	49	27	30	26	51
			323A	3.3/4.4	9.2/10.6	25/25	30/30	24/24	49/49	27/27	30/30	26/26	51/51
			324A	4.9/6.5	13.6/15.6	26/26	30/30	24/24	49/49	29/29	30/30	26/26	51/51
			325A	6.5/8.7	18.1/20.9	33/33	35/35	27/30	49/49	35/35	40/40	29/32	51/51
	328A		12.0/16.0	33.4/38.5	55/55	60/60	44/50	49/49	57/57	60/60	46/52	51/51	
	330A		14.4/19.2	40.0/46.2	65/65	70/70	52/59	49/49	67/67	70/70	54/61	51/51	
	331A	15.8/21.0	43.8/50.5	70/70	70/70	56/64	49/49	72/72	80/80	58/66	51/51		
	460-3-60	STD	NONE	—	—	13	20	12	42	14	20	13	43
			333A	6.0	7.2	13	20	12	42	14	20	13	43
			335A	11.5	13.8	19	20	17	42	20	25	18	43
			336A	14.0	16.8	23	25	21	42	24	25	22	43
			337A	21.5	25.9	34	35	31	42	36	40	32	43
		MED	NONE	—	—	13	20	12	42	14	20	13	43
			333A	6.0	7.2	13	20	12	42	14	20	13	43
			335A	11.5	13.8	20	20	18	42	21	25	19	43
			336A	14.0	16.8	23	25	21	42	25	25	22	43
			337A	21.5	25.9	35	35	32	42	36	40	33	43
		HIGH	NONE	—	—	14	20	13	43	15	20	14	44
			333A	6.0	7.2	14	20	13	43	15	20	14	44
			335A	11.5	13.8	21	25	19	43	22	25	20	44
			336A	14.0	16.8	24	25	22	43	26	30	23	44
			337A	21.5	25.9	36	40	33	43	37	40	34	44
575-3-60		STD	NONE	—	—	11	15	10	42	13	15	12	44
			339A	10.0	9.6	14	15	12	42	16	20	14	44
			340A	15.0	14.4	20	20	18	42	22	25	20	44
	MED	NONE	—	—	11	15	10	42	13	15	13	44	
		339A	10.0	9.6	14	15	13	42	17	20	15	44	
		340A	15.0	14.4	20	20	18	42	23	25	20	44	
	HIGH	NONE	—	—	12	15	11	43	14	20	13	45	
		339A	10.0	9.6	15	15	13	43	17	20	16	45	
		340A	15.0	14.4	21	25	19	43	23	25	21	45	

## 50JC\*\*05 MCA MOCP ELECTRICAL DATA — WITH FACTORY-INSTALLED HACR BREAKER (cont)

50JC UNIT SIZE	NOM. V-Ph-Hz	IFM TYPE	ELECTRIC HEATER			w/ POWERED CONVENIENCE OUTLET							
			CRHEATER ****00	NOM (kW)	FLA	NO POWER EXHAUST				w/ POWER EXHAUST (powered from unit)			
						MCA	HACR BRKR	DISCONNECT SIZE		MCA	HACR BRKR	DISCONNECT SIZE	
								FLA	LRA			FLA	LRA
**05	208/230-3-60	STD	NONE	—	—	29	40	29	54	31	40	31	56
			323A	3.3/4.4	9.2/10.6	29/29	40/40	29/29	54/54	31/31	40/40	31/31	56/56
			324A	4.9/6.5	13.6/15.6	32/32	40/40	29/29	54/54	35/35	40/40	31/31	56/56
			325A	6.5/8.7	18.1/20.9	39/39	40/40	32/35	54/54	41/41	45/45	34/37	56/56
			328A	12.0/16.0	33.4/38.5	61/61	70/70	50/56	54/54	63/63	70/70	52/58	56/56
			330A	14.4/19.2	40.0/46.2	70/70	80/80	57/64	54/54	73/73	80/80	59/67	56/56
		331A	15.8/21.0	43.8/50.5	76/76	80/80	62/69	54/54	78/78	80/80	64/72	56/56	
		MED	NONE	—	—	31	45	32	57	33	45	34	59
			323A	3.3/4.4	9.2/10.6	31/31	45/45	32/32	57/57	33/33	45/45	34/34	59/59
			324A	4.9/6.5	13.6/15.6	35/35	45/45	32/32	57/57	37/37	45/45	34/34	59/59
			325A	6.5/8.7	18.1/20.9	41/41	45/45	35/38	57/57	44/44	45/45	37/40	59/59
			328A	12.0/16.0	33.4/38.5	63/63	70/70	52/58	57/57	66/66	70/70	54/60	59/59
			330A	14.4/19.2	40.0/46.2	73/73	80/80	60/67	57/57	75/75	80/80	62/69	59/59
		331A	15.8/21.0	43.8/50.5	78/78	80/80	64/72	57/57	81/81	90/90	66/74	59/59	
		HIGH	NONE	—	—	29	40	29	54	31	45	32	56
			323A	3.3/4.4	9.2/10.6	29/29	40/40	29/29	54/54	31/31	45/45	32/32	56/56
			324A	4.9/6.5	13.6/15.6	32/32	40/40	29/29	54/54	35/35	45/45	32/32	56/56
			325A	6.5/8.7	18.1/20.9	39/39	40/40	32/35	54/54	41/41	45/45	34/38	56/56
	328A		12.0/16.0	33.4/38.5	61/61	70/70	50/56	54/54	63/63	70/70	52/58	56/56	
	330A		14.4/19.2	40.0/46.2	71/71	80/80	57/65	54/54	73/73	80/80	60/67	56/56	
	331A	15.8/21.0	43.8/50.5	76/76	80/80	62/69	54/54	78/78	80/80	64/72	56/56		
	460-3-60	STD	NONE	—	—	15	20	14	44	16	20	16	45
			333A	6.0	7.2	15	20	14	44	16	20	16	45
			335A	11.5	13.8	22	25	20	44	23	25	21	45
336A			14.0	16.8	26	30	23	44	27	30	24	45	
337A			21.5	25.9	37	40	34	44	38	40	35	45	
MED		NONE	—	—	15	20	15	44	16	20	16	45	
		333A	6.0	7.2	15	20	15	44	16	20	16	45	
		335A	11.5	13.8	22	25	20	44	24	25	21	45	
		336A	14.0	16.8	26	30	24	44	27	30	25	45	
		337A	21.5	25.9	37	40	34	44	39	40	35	45	
HIGH		NONE	—	—	16	20	16	45	17	25	17	46	
		333A	6.0	7.2	16	20	16	45	17	25	17	46	
	335A	11.5	13.8	23	25	21	45	25	25	22	46		
	336A	14.0	16.8	27	30	25	45	28	30	26	46		
575-3-60	STD	NONE	—	—	13	15	12	44	15	20	14	46	
		339A	10.0	9.6	16	20	14	44	18	20	16	46	
		340A	15.0	14.4	22	25	20	44	24	25	22	46	
		NONE	—	—	13	15	12	44	15	20	15	46	
	MED	339A	10.0	9.6	16	20	15	44	19	20	17	46	
		340A	15.0	14.4	22	25	20	44	25	25	22	46	
		NONE	—	—	14	20	13	45	16	20	15	47	
		339A	10.0	9.6	17	20	15	45	20	20	18	47	
	HIGH	340A	15.0	14.4	23	25	21	45	26	30	23	47	





### 50JC\*\*06 MCA MOCP ELECTRICAL DATA

50JC UNIT SIZE	NOM. V-Ph-Hz	IFM TYPE	ELECTRIC HEATER			NO CONVENIENCE OUTLET OR UNPOWERED CONVENIENCE OUTLET							
			CRHEATER ****00	NOM (kW)	FLA	NO POWER EXHAUST				w/ POWER EXHAUST (powered from unit)			
						MCA	FUSE OR HACR BRKR	DISCONNECT SIZE		MCA	FUSE OR HACR BRKR	DISCONNECT SIZE	
								FLA	LRA			FLA	LRA
<b>**06</b>	208/230-3-60	STD	NONE	—	—	27	30	26	52	29	40	28	54
			324A	4.9/6.5	13.6/15.6	27/29	30/30	26/26	52/52	29/31	40/40	28/28	54/54
			326A	7.9/10.5	21.9/25.3	37/41	40/45	33/37	52/52	39/43	40/45	36/40	54/54
			328A	12.0/16.0	33.4/38.5	51/58	60/60	47/53	52/52	54/60	60/60	49/55	54/54
			331A	15.8/21.0	43.8/50.5	64/73	70/80	59/66	52/52	67/75	70/80	61/69	54/54
		332A	18.4/24.5	51.1/58.9	73/83	80/90	67/76	52/52	76/85	80/90	69/78	54/54	
		MED	NONE	—	—	28	40	28	54	30	40	30	56
			324A	4.9/6.5	13.6/15.6	28/31	40/40	28/28	54/54	31/33	40/40	30/30	56/56
			326A	7.9/10.5	21.9/25.3	39/43	40/45	35/39	54/54	41/45	45/45	37/41	56/56
			328A	12.0/16.0	33.4/38.5	53/59	60/60	48/54	54/54	55/62	60/70	50/56	56/56
			331A	15.8/21.0	43.8/50.5	66/74	70/80	60/68	54/54	68/77	70/80	62/70	56/56
		332A	18.4/24.5	51.1/58.9	75/85	80/90	69/78	54/54	77/87	80/90	71/80	56/56	
		HIGH	NONE	—	—	26	30	25	51	28	40	27	53
			324A	4.9/6.5	13.6/15.6	26/28	30/30	25/25	51/51	28/30	40/40	27/27	53/53
			326A	7.9/10.5	21.9/25.3	36/40	40/40	33/36	51/51	38/42	40/45	35/39	53/53
	328A		12.0/16.0	33.4/38.5	50/57	50/60	46/52	51/51	53/59	60/60	48/54	53/53	
	331A		15.8/21.0	43.8/50.5	63/72	70/80	58/65	51/51	66/74	70/80	60/68	53/53	
	332A	18.4/24.5	51.1/58.9	72/82	80/90	66/75	51/51	75/84	80/90	68/77	53/53		
	460-3-60	STD	NONE	—	—	13	20	12	42	14	20	13	43
			333A	6.0	7.2	13	20	12	42	14	20	13	43
			335A	11.5	13.8	20	20	18	42	21	25	19	43
			336A	14.0	16.8	23	25	21	42	25	25	22	43
			337A	21.5	25.9	35	35	32	42	36	40	33	43
		338A	24.0	28.9	38	40	35	42	40	40	36	43	
		MED	NONE	—	—	14	20	13	43	15	20	14	44
			333A	6.0	7.2	14	20	13	43	15	20	14	44
			335A	11.5	13.8	20	20	18	43	21	25	19	44
			336A	14.0	16.8	24	25	22	43	25	25	23	44
			337A	21.5	25.9	35	35	32	43	36	40	33	44
		338A	24.0	28.9	39	40	35	43	40	40	37	44	
		HIGH	NONE	—	—	15	20	14	44	16	20	15	45
			333A	6.0	7.2	15	20	14	44	16	20	15	45
			335A	11.5	13.8	21	25	19	44	23	25	20	45
	336A		14.0	16.8	25	25	23	44	26	30	24	45	
	337A		21.5	25.9	36	40	33	44	38	40	34	45	
	338A	24.0	28.9	40	40	37	44	41	45	38	45		
	575-3-60	STD	NONE	—	—	11	15	10	42	13	15	13	44
			340A	15.0	14.4	20	20	18	42	23	25	20	44
			341A	21.0	20.2	28	30	25	42	30	30	27	44
		MED	NONE	—	—	12	15	11	43	14	20	13	45
			340A	15.0	14.4	21	25	19	43	23	25	21	45
		341A	21.0	20.2	28	30	25	43	30	30	27	45	
		HIGH	NONE	—	—	12	15	12	44	14	20	14	46
	340A		15.0	14.4	22	25	19	44	24	25	22	46	
	341A	21.0	20.2	29	30	26	44	31	35	28	46		

## 50JC\*\*06 MCA MOCP ELECTRICAL DATA (cont)

50JC UNIT SIZE	NOM. V-Ph-Hz	IFM TYPE	ELECTRIC HEATER			w/ POWERED CONVENIENCE OUTLET							
			CRHEATER ****00	NOM (kW)	FLA	NO POWER EXHAUST				w/ POWER EXHAUST (powered from unit)			
						MCA	FUSE OR HACR BRKR	DISCONNECT SIZE		MCA	FUSE OR HACR BRKR	DISCONNECT SIZE	
							FLA	LRA			FLA	LRA	
**06	208/230-3-60	STD	NONE	—	—	32	45	32	57	33	45	34	59
			324A	4.9/6.5	13.6/15.6	32/35	45/45	32/32	57/57	35/37	45/45	34/34	59/59
			326A	7.9/10.5	21.9/25.3	43/47	45/50	39/43	57/57	45/49	45/50	41/45	59/59
			328A	12.0/16.0	33.4/38.5	57/64	60/70	52/58	57/57	60/66	60/70	54/60	59/59
			331A	15.8/21.0	43.8/50.5	70/79	70/80	64/72	57/57	73/81	80/90	66/74	59/59
		332A	18.4/24.5	51.1/58.9	79/89	80/90	73/82	57/57	82/91	90/100	75/84	59/59	
		MED	NONE	—	—	33	45	33	59	35	45	36	61
			324A	4.9/6.5	13.6/15.6	34/37	45/45	33/33	59/59	37/39	45/45	36/36	61/61
			326A	7.9/10.5	21.9/25.3	45/49	45/50	41/45	59/59	47/51	50/60	43/47	61/61
			328A	12.0/16.0	33.4/38.5	59/65	60/70	54/60	59/59	61/68	70/70	56/62	61/61
			331A	15.8/21.0	43.8/50.5	72/80	80/80	66/73	59/59	74/83	80/90	68/76	61/61
		332A	18.4/24.5	51.1/58.9	81/91	90/100	74/83	59/59	83/93	90/100	76/85	61/61	
		HIGH	NONE	—	—	31	40	31	56	33	45	33	58
			324A	4.9/6.5	13.6/15.6	31/34	40/40	31/31	56/56	34/36	45/45	33/33	58/58
			326A	7.9/10.5	21.9/25.3	42/46	45/50	38/42	56/56	44/48	45/50	40/44	58/58
	328A		12.0/16.0	33.4/38.5	56/63	60/70	51/57	56/56	59/65	60/70	53/59	58/58	
	331A		15.8/21.0	43.8/50.5	69/78	70/80	63/71	56/56	72/80	80/80	65/73	58/58	
	332A	18.4/24.5	51.1/58.9	78/88	80/90	72/81	56/56	81/90	90/100	74/83	58/58		
	460-3-60	STD	NONE	—	—	15	20	15	44	16	20	16	45
			333A	6.0	7.2	15	20	15	44	16	20	16	45
			335A	11.5	13.8	22	25	20	44	24	25	21	45
			336A	14.0	16.8	26	30	24	44	27	30	25	45
			337A	21.5	25.9	37	40	34	44	39	40	35	45
		338A	24.0	28.9	41	45	37	44	42	45	39	45	
		MED	NONE	—	—	16	20	15	45	17	20	16	46
			333A	6.0	7.2	16	20	15	45	17	20	16	46
			335A	11.5	13.8	23	25	21	45	24	25	22	46
			336A	14.0	16.8	27	30	24	45	28	30	25	46
			337A	21.5	25.9	38	40	35	45	39	40	36	46
		338A	24.0	28.9	42	45	38	45	43	45	39	46	
		HIGH	NONE	—	—	17	20	16	46	18	25	17	47
			333A	6.0	7.2	17	20	16	46	18	25	17	47
			335A	11.5	13.8	24	25	22	46	25	25	23	47
	336A		14.0	16.8	28	30	25	46	29	30	26	47	
	337A		21.5	25.9	39	40	36	46	40	45	37	47	
	338A	24.0	28.9	43	45	39	46	44	45	40	47		
575-3-60	STD	NONE	—	—	13	15	12	44	15	20	15	46	
		340A	15.0	14.4	22	25	20	44	25	25	22	46	
		341A	21.0	20.2	30	30	27	44	32	35	29	46	
	MED	NONE	—	—	13	15	13	45	15	20	15	47	
		340A	15.0	14.4	23	25	21	45	25	25	23	47	
		341A	21.0	20.2	30	30	27	45	32	35	29	47	
	HIGH	NONE	—	—	14	20	14	46	16	20	16	48	
		340A	15.0	14.4	24	25	21	46	26	30	24	48	
		341A	21.0	20.2	31	35	28	46	33	35	30	48	



**50JC\*\*06 MCA MOCP ELECTRICAL DATA — WITH FACTORY-INSTALLED HACR BREAKER**

50JC UNIT SIZE	NOM. V-Ph-Hz	IFM TYPE	ELECTRIC HEATER			NO CONVENIENCE OUTLET OR UNPOWERED CONVENIENCE OUTLET							
			CRHEATER ****00	NOM (kW)	FLA	NO POWER EXHAUST				w/ POWER EXHAUST (powered from unit)			
						MCA	HACR BRKR	DISCONNECT SIZE		MCA	HACR BRKR	DISCONNECT SIZE	
								FLA	LRA			FLA	LRA
<b>**06</b>	208/230-3-60	STD	NONE	—	—	27	30	26	52	29	40	28	54
			324A	4.9/6.5	13.6/15.6	29/29	30/30	26/26	52/52	31/31	40/40	28/28	54/54
			326A	7.9/10.5	21.9/25.3	41/41	45/45	33/37	52/52	43/43	45/45	36/40	54/54
			328A	12.0/16.0	33.4/38.5	58/58	60/60	47/53	52/52	60/60	60/60	49/55	54/54
			331A	15.8/21.0	43.8/50.5	73/73	80/80	59/66	52/52	75/75	80/80	61/69	54/54
			332A	18.4/24.5	51.1/58.9	83/83	90/90	67/76	52/52	85/85	90/90	69/78	54/54
		MED	NONE	—	—	28	40	28	54	30	40	30	56
			324A	4.9/6.5	13.6/15.6	31/31	40/40	28/28	54/54	33/33	40/40	30/30	56/56
			326A	7.9/10.5	21.9/25.3	43/43	45/45	35/39	54/54	45/45	45/45	37/41	56/56
			328A	12.0/16.0	33.4/38.5	59/59	60/60	48/54	54/54	62/62	70/70	50/56	56/56
			331A	15.8/21.0	43.8/50.5	74/74	80/80	60/68	54/54	77/77	80/80	62/70	56/56
			332A	18.4/24.5	51.1/58.9	85/85	90/90	69/78	54/54	87/87	90/90	71/80	56/56
		HIGH	NONE	—	—	26	30	25	51	28	40	27	53
			324A	4.9/6.5	13.6/15.6	28/28	30/30	25/25	51/51	30/30	40/40	27/27	53/53
			326A	7.9/10.5	21.9/25.3	40/40	40/40	33/36	51/51	42/42	45/45	35/39	53/53
			328A	12.0/16.0	33.4/38.5	57/57	60/60	46/52	51/51	59/59	60/60	48/54	53/53
			331A	15.8/21.0	43.8/50.5	72/72	80/80	58/65	51/51	74/74	80/80	60/68	53/53
			332A	18.4/24.5	51.1/58.9	82/82	90/90	66/75	51/51	84/84	90/90	68/77	53/53
	460-3-60	STD	NONE	—	—	13	20	12	42	14	20	13	43
			333A	6.0	7.2	13	20	12	42	14	20	13	43
			335A	11.5	13.8	20	20	18	42	21	25	19	43
			336A	14.0	16.8	23	25	21	42	25	25	22	43
			337A	21.5	25.9	35	35	32	42	36	40	33	43
			338A	24.0	28.9	38	40	35	42	40	40	36	43
		MED	NONE	—	—	14	20	13	43	15	20	14	44
			333A	6.0	7.2	14	20	13	43	15	20	14	44
			335A	11.5	13.8	20	20	18	43	21	25	19	44
			336A	14.0	16.8	24	25	22	43	25	25	23	44
			337A	21.5	25.9	35	35	32	43	36	40	33	44
			338A	24.0	28.9	39	40	35	43	40	40	37	44
		HIGH	NONE	—	—	15	20	14	44	16	20	15	45
			333A	6.0	7.2	15	20	14	44	16	20	15	45
			335A	11.5	13.8	21	25	19	44	23	25	20	45
			336A	14.0	16.8	25	25	23	44	26	30	24	45
			337A	21.5	25.9	36	40	33	44	38	40	34	45
			338A	24.0	28.9	40	40	37	44	41	45	38	45
	575-3-60	STD	NONE	—	—	11	15	10	42	13	15	13	44
			340A	15.0	14.4	20	20	18	42	23	25	20	44
			341A	21.0	20.2	28	30	25	42	30	30	27	44
		MED	NONE	—	—	12	15	11	43	14	20	13	45
			340A	15.0	14.4	21	25	19	43	23	25	21	45
			341A	21.0	20.2	28	30	25	43	30	30	27	45
		HIGH	NONE	—	—	12	15	12	44	14	20	14	46
			340A	15.0	14.4	22	25	19	44	24	25	22	46
			341A	21.0	20.2	29	30	26	44	31	35	28	46

## 50JC\*\*06 MCA MOC P ELECTRICAL DATA — WITH FACTORY-INSTALLED HACR BREAKER (cont)

50JC UNIT SIZE	NOM. V-Ph-Hz	IFM TYPE	ELECTRIC HEATER			w/ POWERED CONVENIENCE OUTLET							
			CRHEATER ****00	NOM (kW)	FLA	NO POWER EXHAUST				w/ POWER EXHAUST (powered from unit)			
						MCA	HACR BRKR	DISCONNECT SIZE		MCA	HACR BRKR	DISCONNECT SIZE	
								FLA	LRA			FLA	LRA
**06	208/230-3-60	STD	NONE	—	—	32	45	32	57	33	45	34	59
			324A	4.9/6.5	13.6/15.6	35/35	45/45	32/32	57/57	37/37	45/45	34/34	59/59
			326A	7.9/10.5	21.9/25.3	47/47	50/50	39/43	57/57	49/49	50/50	41/45	59/59
			328A	12.0/16.0	33.4/38.5	64/64	70/70	52/58	57/57	66/66	70/70	54/60	59/59
			331A	15.8/21.0	43.8/50.5	79/79	80/80	64/72	57/57	81/81	90/90	66/74	59/59
			332A	18.4/24.5	51.1/58.9	89/89	90/90	73/82	57/57	91/91	100/100	75/84	59/59
		MED	NONE	—	—	33	45	33	59	35	45	36	61
			324A	4.9/6.5	13.6/15.6	37/37	45/45	33/33	59/59	39/39	45/45	36/36	61/61
			326A	7.9/10.5	21.9/25.3	49/49	50/50	41/45	59/59	51/51	60/60	43/47	61/61
			328A	12.0/16.0	33.4/38.5	65/65	70/70	54/60	59/59	68/68	70/70	56/62	61/61
			331A	15.8/21.0	43.8/50.5	80/80	80/80	66/73	59/59	83/83	90/90	68/76	61/61
			332A	18.4/24.5	51.1/58.9	91/91	100/100	74/83	59/59	93/93	100/100	76/85	61/61
		HIGH	NONE	—	—	31	40	31	56	33	45	33	58
			324A	4.9/6.5	13.6/15.6	34/34	40/40	31/31	56/56	36/36	45/45	33/33	58/58
			326A	7.9/10.5	21.9/25.3	46/46	50/50	38/42	56/56	48/48	50/50	40/44	58/58
			328A	12.0/16.0	33.4/38.5	63/63	70/70	51/57	56/56	65/65	70/70	53/59	58/58
			331A	15.8/21.0	43.8/50.5	78/78	80/80	63/71	56/56	80/80	80/80	65/73	58/58
			332A	18.4/24.5	51.1/58.9	88/88	90/90	72/81	56/56	90/90	100/100	74/83	58/58
	460-3-60	STD	NONE	—	—	15	20	15	44	16	20	16	45
			333A	6.0	7.2	15	20	15	44	16	20	16	45
			335A	11.5	13.8	22	25	20	44	24	25	21	45
			336A	14.0	16.8	26	30	24	44	27	30	25	45
			337A	21.5	25.9	37	40	34	44	39	40	35	45
			338A	24.0	28.9	41	45	37	44	42	45	39	45
		MED	NONE	—	—	16	20	15	45	17	20	16	46
			333A	6.0	7.2	16	20	15	45	17	20	16	46
			335A	11.5	13.8	23	25	21	45	24	25	22	46
			336A	14.0	16.8	27	30	24	45	28	30	25	46
			337A	21.5	25.9	38	40	35	45	39	40	36	46
			338A	24.0	28.9	42	45	38	45	43	45	39	46
		HIGH	NONE	—	—	17	20	16	46	18	25	17	47
			333A	6.0	7.2	17	20	16	46	18	25	17	47
			335A	11.5	13.8	24	25	22	46	25	25	23	47
			336A	14.0	16.8	28	30	25	46	29	30	26	47
			337A	21.5	25.9	39	40	36	46	40	45	37	47
			338A	24.0	28.9	43	45	39	46	44	45	40	47
575-3-60	STD	NONE	—	—	13	15	12	44	15	20	15	46	
		340A	15.0	14.4	22	25	20	44	25	25	22	46	
		341A	21.0	20.2	30	30	27	44	32	35	29	46	
	MED	NONE	—	—	13	15	13	45	15	20	15	47	
		340A	15.0	14.4	23	25	21	45	25	25	23	47	
		341A	21.0	20.2	30	30	27	45	32	35	29	47	
	HIGH	NONE	—	—	14	20	14	46	16	20	16	48	
		340A	15.0	14.4	24	25	21	46	26	30	24	48	
		341A	21.0	20.2	31	35	28	46	33	35	30	48	



**50JC\*\*04 ELECTRIC HEAT DATA — WITHOUT NON-FUSED DISCONNECT**

50JC UNIT SIZE	NOM. V-Ph-Hz	IFM TYPE	ELECTRIC HEATER PART NUMBER	NOM (kW)	APPLICATION (kW)	APPLICATION OUTPUT (MBH)	SINGLE POINT OR JUNCTION PART NUMBER CRSINGLEXXA00			
							NO C.O. OR UNPOWERED C.O.		w/PWRD C.O.	
							NO P.E.	w/P.E. (pwrd fr/unit)	NO P.E	w/P.E. (pwrd fr/unit)
**04	208/230-3-60	STD	CRHEATER323A00	4.4	3.3/4.0	11.3/13.8	—	—	—	—
			CRHEATER324A00	6.5	4.9/6.0	16.7/20.4	—	—	—	—
			CRHEATER325A00	8.7	6.5/8.0	22.3/27.3	—	—	—	—
			CRHEATER326A00	10.5	7.9/9.6	26.9/32.9	—	—	—	—
			CRHEATER328A00	16.0	12.0/14.7	41.0/50.1	037	037	037	038
		MED	CRHEATER323A00	4.4	3.3/4.0	11.3/13.8	—	—	—	—
			CRHEATER324A00	6.5	4.9/6.0	16.7/20.4	—	—	—	—
			CRHEATER325A00	8.7	6.5/8.0	22.3/27.3	—	—	—	—
			CRHEATER326A00	10.5	7.9/9.6	26.9/32.9	—	—	—	—
			CRHEATER328A00	16.0	12.0/14.7	41.0/50.1	037	037	038	038
		HIGH	CRHEATER323A00	4.4	3.3/4.0	11.3/13.8	—	—	—	—
			CRHEATER324A00	6.5	4.9/6.0	16.7/20.4	—	—	—	—
	CRHEATER325A00		8.7	6.5/8.0	22.3/27.3	—	—	—	—	
	CRHEATER326A00		10.5	7.9/9.6	26.9/32.9	—	—	—	—	
	CRHEATER328A00		16.0	12.0/14.7	41.0/50.1	037	037	038	038	
	460-3-60	STD	CRHEATER333A00	6.0	5.5	18.8	—	—	—	—
			CRHEATER334A00	8.8	8.1	27.6	—	—	—	—
			CRHEATER335A00	11.5	10.6	36.0	—	—	—	—
			CRHEATER336A00	14.0	12.9	43.9	—	—	—	—
		MED	CRHEATER333A00	6.0	5.5	18.8	—	—	—	—
			CRHEATER334A00	8.8	8.1	27.6	—	—	—	—
			CRHEATER335A00	11.5	10.6	36.0	—	—	—	—
			CRHEATER336A00	14.0	12.9	43.9	—	—	—	—
		HIGH	CRHEATER333A00	6.0	5.5	18.8	—	—	—	—
CRHEATER334A00			8.8	8.1	27.6	—	—	—	—	
CRHEATER335A00			11.5	10.6	36.0	—	—	—	—	
CRHEATER336A00			14.0	12.9	43.9	—	—	—	—	
575-3-60	STD	CRHEATER339A00	10.0	9.2	31.3	—	—	—	—	
		CRHEATER340A00	15.0	13.8	47.0	—	—	—	—	
	MED	CRHEATER339A00	10.0	9.2	31.3	—	—	—	—	
		CRHEATER340A00	15.0	13.8	47.0	—	—	—	—	
	HIGH	CRHEATER339A00	10.0	9.2	31.3	—	—	—	—	
		CRHEATER340A00	15.0	13.8	47.0	—	—	—	—	

## 50JC\*\*04 ELECTRIC HEAT DATA — WITH NON-FUSED DISCONNECT

50JC UNIT SIZE	NOM. V-Ph-Hz	IFM TYPE	ELECTRIC HEATER PART NUMBER	NOM (kW)	APPLICATION (kW)	APPLICATION OUTPUT (MBH)	SINGLE POINT OR JUNCTION PART NUMBER CRSINGLEXXA00			
							NO C.O. OR UNPOWERED C.O.		w/PWRD C.O.	
							NO P.E.	w/P.E. (pwrd fr/unit)	NO P.E	w/P.E. (pwrd fr/unit)
**04	208/230-3-60	STD	CRHEATER323A00	4.4	3.3/4.0	11.3/13.8	037	037	037	037
			CRHEATER324A00	6.5	4.9/6.0	16.7/20.4	037	037	037	037
			CRHEATER325A00	8.7	6.5/8.0	22.3/27.3	037	037	037	037
			CRHEATER326A00	10.5	7.9/9.6	26.9/32.9	037	037	037	037
		CRHEATER328A00	16.0	12.0/14.7	41.0/50.1	037	037	037	038	
		MED	CRHEATER323A00	4.4	3.3/4.0	11.3/13.8	037	037	037	037
			CRHEATER324A00	6.5	4.9/6.0	16.7/20.4	037	037	037	037
			CRHEATER325A00	8.7	6.5/8.0	22.3/27.3	037	037	037	037
			CRHEATER326A00	10.5	7.9/9.6	26.9/32.9	037	037	037	037
		CRHEATER328A00	16.0	12.0/14.7	41.0/50.1	037	037	038	038	
		HIGH	CRHEATER323A00	4.4	3.3/4.0	11.3/13.8	037	037	037	037
			CRHEATER324A00	6.5	4.9/6.0	16.7/20.4	037	037	037	037
	CRHEATER325A00		8.7	6.5/8.0	22.3/27.3	037	037	037	037	
	CRHEATER326A00		10.5	7.9/9.6	26.9/32.9	037	037	037	037	
	CRHEATER328A00	16.0	12.0/14.7	41.0/50.1	037	037	038	038		
	460-3-60	STD	CRHEATER333A00	6.0	5.5	18.8	—	—	—	—
			CRHEATER334A00	8.8	8.1	27.6	—	—	—	—
			CRHEATER335A00	11.5	10.6	36.0	—	—	—	—
			CRHEATER336A00	14.0	12.9	43.9	—	—	—	—
		MED	CRHEATER333A00	6.0	5.5	18.8	—	—	—	—
			CRHEATER334A00	8.8	8.1	27.6	—	—	—	—
			CRHEATER335A00	11.5	10.6	36.0	—	—	—	—
			CRHEATER336A00	14.0	12.9	43.9	—	—	—	—
		HIGH	CRHEATER333A00	6.0	5.5	18.8	—	—	—	—
CRHEATER334A00			8.8	8.1	27.6	—	—	—	—	
CRHEATER335A00			11.5	10.6	36.0	—	—	—	—	
CRHEATER336A00			14.0	12.9	43.9	—	—	—	—	
575-3-60	STD	CRHEATER339A00	10.0	9.2	31.3	—	—	—	—	
		CRHEATER340A00	15.0	13.8	47.0	—	—	—	—	
	MED	CRHEATER339A00	10.0	9.2	31.3	—	—	—	—	
		CRHEATER340A00	15.0	13.8	47.0	—	—	—	—	
	HIGH	CRHEATER339A00	10.0	9.2	31.3	—	—	—	—	
		CRHEATER340A00	15.0	13.8	47.0	—	—	—	—	



**50JC\*\*05 ELECTRIC HEAT DATA — WITHOUT NON-FUSED DISCONNECT**

50JC UNIT SIZE	NOM. V-Ph-Hz	IFM TYPE	ELECTRIC HEATER PART NUMBER	NOM (kW)	APPLICATION (kW)	APPLICATION OUTPUT (MBH)	SINGLE POINT OR JUNCTION PART NUMBER CRSINGLEXXXXA00			
							NO C.O. OR UNPOWERED C.O.		w/PWRD C.O.	
							NO P.E.	w/P.E. (pwrd fr/unit)	NO P.E	w/P.E. (pwrd fr/unit)
<b>**05</b>	208/230-3-60	STD	CRHEATER323A00	4.4	3.3/4.0	11.3/13.8	—	—	—	—
			CRHEATER324A00	6.5	4.9/6.0	16.7/20.4	—	—	—	—
			CRHEATER325A00	8.7	6.5/8.0	22.3/27.3	—	—	—	—
			CRHEATER328A00	16.0	12.0/14.7	41.0/50.1	037	037	038	038
			CRHEATER330A00	19.2	14.4/17.6	49.2/60.2	038	038	038	038
		CRHEATER331A00	21.0	15.8/19.3	53.8/65.8	038	038	038	038	
		MED	CRHEATER323A00	4.4	3.3/4.0	11.3/13.8	—	—	—	—
			CRHEATER324A00	6.5	4.9/6.0	16.7/20.4	—	—	—	—
			CRHEATER325A00	8.7	6.5/8.0	22.3/27.3	—	—	—	—
			CRHEATER328A00	16.0	12.0/14.7	41.0/50.1	037	037	038	038
			CRHEATER330A00	19.2	14.4/17.6	49.2/60.2	038	038	038	038
		HIGH	CRHEATER331A00	21.0	15.8/19.3	53.8/65.8	038	038	038	038
	CRHEATER323A00		4.4	3.3/4.0	11.3/13.8	—	—	—	—	
	CRHEATER324A00		6.5	4.9/6.0	16.7/20.4	—	—	—	—	
	CRHEATER325A00		8.7	6.5/8.0	22.3/27.3	—	—	—	—	
	CRHEATER328A00		16.0	12.0/14.7	41.0/50.1	037	037	038	038	
	460-3-60	STD	CRHEATER333A00	6.0	5.5	18.8	—	—	—	—
			CRHEATER335A00	11.5	10.6	36.0	—	—	—	—
			CRHEATER336A00	14.0	12.9	43.9	—	—	—	—
			CRHEATER337A00	21.5	19.7	67.4	037	037	037	037
		MED	CRHEATER333A00	6.0	5.5	18.8	—	—	—	—
			CRHEATER335A00	11.5	10.6	36.0	—	—	—	—
			CRHEATER337A00	21.5	19.7	67.4	037	037	037	037
		HIGH	CRHEATER333A00	6.0	5.5	18.8	—	—	—	—
CRHEATER335A00			11.5	10.6	36.0	—	—	—	—	
CRHEATER336A00			14.0	12.9	43.9	—	—	—	—	
575-3-60		STD	CRHEATER337A00	21.5	19.7	67.4	037	037	037	037
			CRHEATER339A00	10.0	9.2	31.3	—	—	—	—
	CRHEATER340A00		15.0	13.8	47.0	—	—	—	—	
	MED	CRHEATER339A00	10.0	9.2	31.3	—	—	—	—	
		CRHEATER340A00	15.0	13.8	47.0	—	—	—	—	
	HIGH	CRHEATER339A00	10.0	9.2	31.3	—	—	—	—	
		CRHEATER340A00	15.0	13.8	47.0	—	—	—	—	

## 50JC\*\*05 ELECTRIC HEAT DATA — WITH NON-FUSED DISCONNECT

50JC UNIT SIZE	NOM. V-Ph-Hz	IFM TYPE	ELECTRIC HEATER PART NUMBER	NOM (kW)	APPLICATION (kW)	APPLICATION OUTPUT (MBH)	SINGLE POINT OR JUNCTION PART NUMBER CRSINGLEXXXXA00			
							NO C.O. OR UNPOWERED C.O.		w/PWRD C.O.	
							NO P.E.	w/P.E. (pwrd fr/unit)	NO P.E	w/P.E. (pwrd fr/unit)
**05	208/230-3-60	STD	CRHEATER323A00	4.4	3.3/4.0	11.3/13.8	037	037	037	037
			CRHEATER324A00	6.5	4.9/6.0	16.7/20.4	037	037	037	037
			CRHEATER325A00	8.7	6.5/8.0	22.3/27.3	037	037	037	037
			CRHEATER328A00	16.0	12.0/14.7	41.0/50.1	037	037	038	038
			CRHEATER330A00	19.2	14.4/17.6	49.2/60.2	038	038	038	038
			CRHEATER331A00	21.0	15.8/19.3	53.8/65.8	038	038	038	038
		MED	CRHEATER323A00	4.4	3.3/4.0	11.3/13.8	037	037	037	037
			CRHEATER324A00	6.5	4.9/6.0	16.7/20.4	037	037	037	037
			CRHEATER325A00	8.7	6.5/8.0	22.3/27.3	037	037	037	037
			CRHEATER328A00	16.0	12.0/14.7	41.0/50.1	037	037	038	038
			CRHEATER330A00	19.2	14.4/17.6	49.2/60.2	038	038	038	038
			CRHEATER331A00	21.0	15.8/19.3	53.8/65.8	038	038	038	038
		HIGH	CRHEATER323A00	4.4	3.3/4.0	11.3/13.8	037	037	037	037
			CRHEATER324A00	6.5	4.9/6.0	16.7/20.4	037	037	037	037
			CRHEATER325A00	8.7	6.5/8.0	22.3/27.3	037	037	037	037
			CRHEATER328A00	16.0	12.0/14.7	41.0/50.1	037	037	038	038
			CRHEATER330A00	19.2	14.4/17.6	49.2/60.2	038	038	038	038
			CRHEATER331A00	21.0	15.8/19.3	53.8/65.8	038	038	038	038
	460-3-60	STD	CRHEATER333A00	6.0	5.5	18.8	—	—	—	—
			CRHEATER335A00	11.5	10.6	36.0	—	—	—	—
			CRHEATER336A00	14.0	12.9	43.9	—	—	—	—
			CRHEATER337A00	21.5	19.7	67.4	037	037	037	037
		MED	CRHEATER333A00	6.0	5.5	18.8	—	—	—	—
			CRHEATER335A00	11.5	10.6	36.0	—	—	—	—
CRHEATER336A00			14.0	12.9	43.9	—	—	—	—	
CRHEATER337A00			21.5	19.7	67.4	037	037	037	037	
HIGH		CRHEATER333A00	6.0	5.5	18.8	—	—	—	—	
		CRHEATER335A00	11.5	10.6	36.0	—	—	—	—	
		CRHEATER336A00	14.0	12.9	43.9	—	—	—	—	
		CRHEATER337A00	21.5	19.7	67.4	037	037	037	037	
575-3-60	STD	CRHEATER339A00	10.0	9.2	31.3	—	—	—	—	
		CRHEATER340A00	15.0	13.8	47.0	—	—	—	—	
	MED	CRHEATER339A00	10.0	9.2	31.3	—	—	—	—	
		CRHEATER340A00	15.0	13.8	47.0	—	—	—	—	
	HIGH	CRHEATER339A00	10.0	9.2	31.3	—	—	—	—	
		CRHEATER340A00	15.0	13.8	47.0	—	—	—	—	





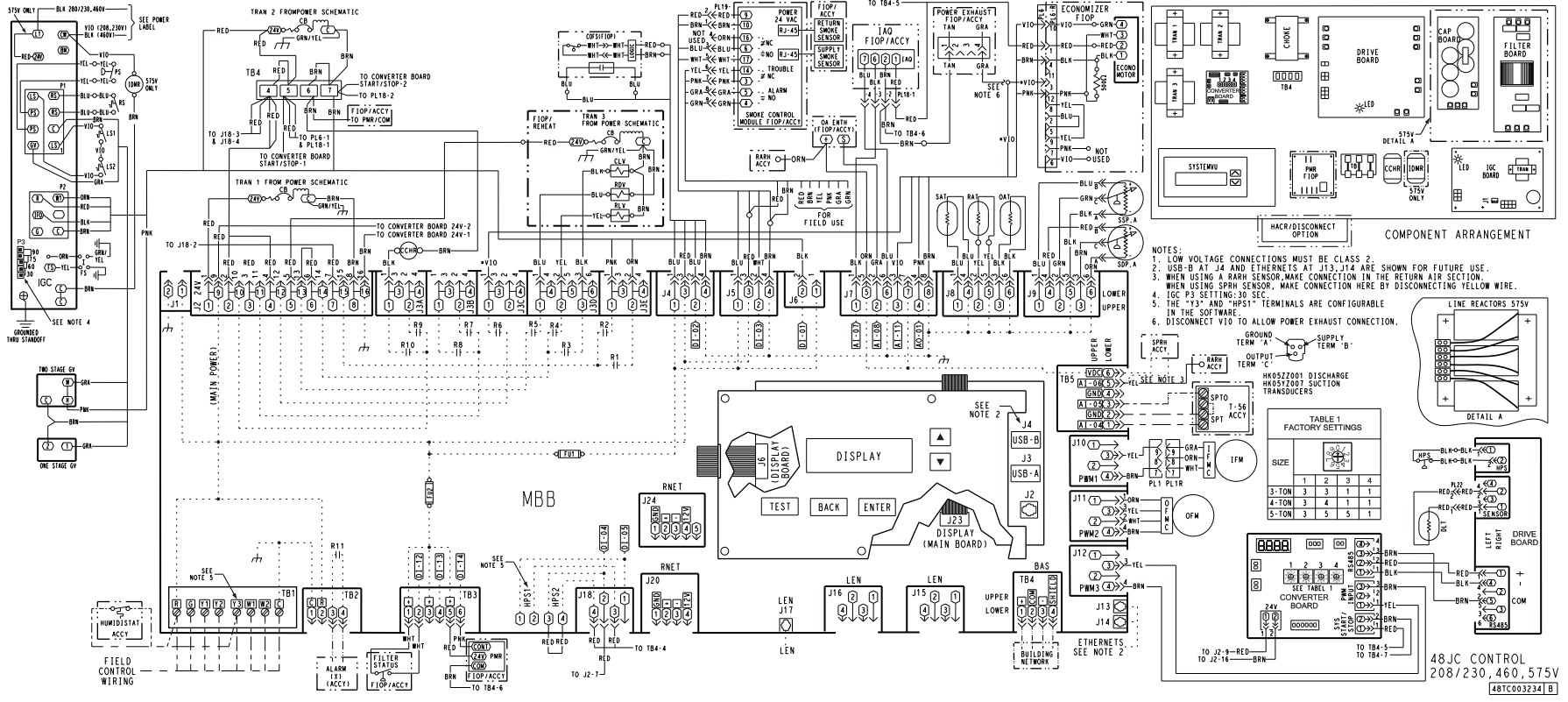
**50JC\*\*06 ELECTRIC HEAT DATA — WITHOUT NON-FUSED DISCONNECT**

50JC UNIT SIZE	NOM. V-Ph-Hz	IFM TYPE	ELECTRIC HEATER PART NUMBER	NOM (kW)	APPLICATION (kW)	APPLICATION OUTPUT (MBH)	SINGLE POINT OR JUNCTION PART NUMBER CRSINGLEXXA00			
							NO C.O. OR UNPOWERED C.O.		w/PWRD C.O.	
							NO P.E.	w/P.E. (pwrd fr/unit)	NO P.E	w/P.E. (pwrd fr/unit)
208/230-3-60	STD	CRHEATER324A00	6.5	4.9/6.0	16.7/20.4	—	—	—	—	
		CRHEATER326A00	10.5	7.9/9.6	26.9/32.9	—	—	—	—	
		CRHEATER328A00	16.0	12.0/14.7	41.0/50.1	037	037	038	038	
		CRHEATER331A00	21.0	15.8/19.3	53.8/65.8	038	038	038	038	
		CRHEATER332A00	24.5	18.4/22.5	62.8/76.8	038	038	038	038	
		CRHEATER324A00	6.5	4.9/6.0	16.7/20.4	—	—	—	—	
		CRHEATER326A00	10.5	7.9/9.6	26.9/32.9	—	—	—	037	
		CRHEATER328A00	16.0	12.0/14.7	41.0/50.1	037	038	038	038	
		CRHEATER331A00	21.0	15.8/19.3	53.8/65.8	038	038	038	038	
		CRHEATER332A00	24.5	18.4/22.5	62.8/76.8	038	038	038	038	
		CRHEATER324A00	6.5	4.9/6.0	16.7/20.4	—	—	—	—	
		CRHEATER326A00	10.5	7.9/9.6	26.9/32.9	—	—	—	—	
	CRHEATER328A00	16.0	12.0/14.7	41.0/50.1	037	037	038	038		
	CRHEATER331A00	21.0	15.8/19.3	53.8/65.8	038	038	038	038		
	CRHEATER332A00	24.5	18.4/22.5	62.8/76.8	038	038	038	038		
	460-3-60	STD	CRHEATER333A00	6.0	5.5	18.8	—	—	—	—
			CRHEATER335A00	11.5	10.6	36.0	—	—	—	—
			CRHEATER336A00	14.0	12.9	43.9	—	—	—	—
			CRHEATER337A00	21.5	19.7	67.4	037	037	037	037
			CRHEATER338A00	24.0	22.0	75.2	037	037	037	037
		MED	CRHEATER333A00	6.0	5.5	18.8	—	—	—	—
			CRHEATER335A00	11.5	10.6	36.0	—	—	—	—
			CRHEATER336A00	14.0	12.9	43.9	—	—	—	—
			CRHEATER337A00	21.5	19.7	67.4	037	037	037	037
CRHEATER338A00			24.0	22.0	75.2	037	037	037	037	
HIGH		CRHEATER333A00	6.0	5.5	18.8	—	—	—	—	
		CRHEATER335A00	11.5	10.6	36.0	—	—	—	—	
	CRHEATER336A00	14.0	12.9	43.9	—	—	—	—		
	CRHEATER337A00	21.5	19.7	67.4	037	037	037	037		
	CRHEATER338A00	24.0	22.0	75.2	037	037	037	037		
575-3-60	STD	CRHEATER340A00	15.0	13.8	47.0	—	—	—	—	
		CRHEATER341A00	21.0	19.3	65.8	037	037	037	037	
	MED	CRHEATER340A00	15.0	13.8	47.0	—	—	—	—	
		CRHEATER341A00	21.0	19.3	65.8	037	037	037	037	
	HIGH	CRHEATER340A00	15.0	13.8	47.0	—	—	—	—	
		CRHEATER341A00	21.0	19.3	65.8	037	037	037	037	

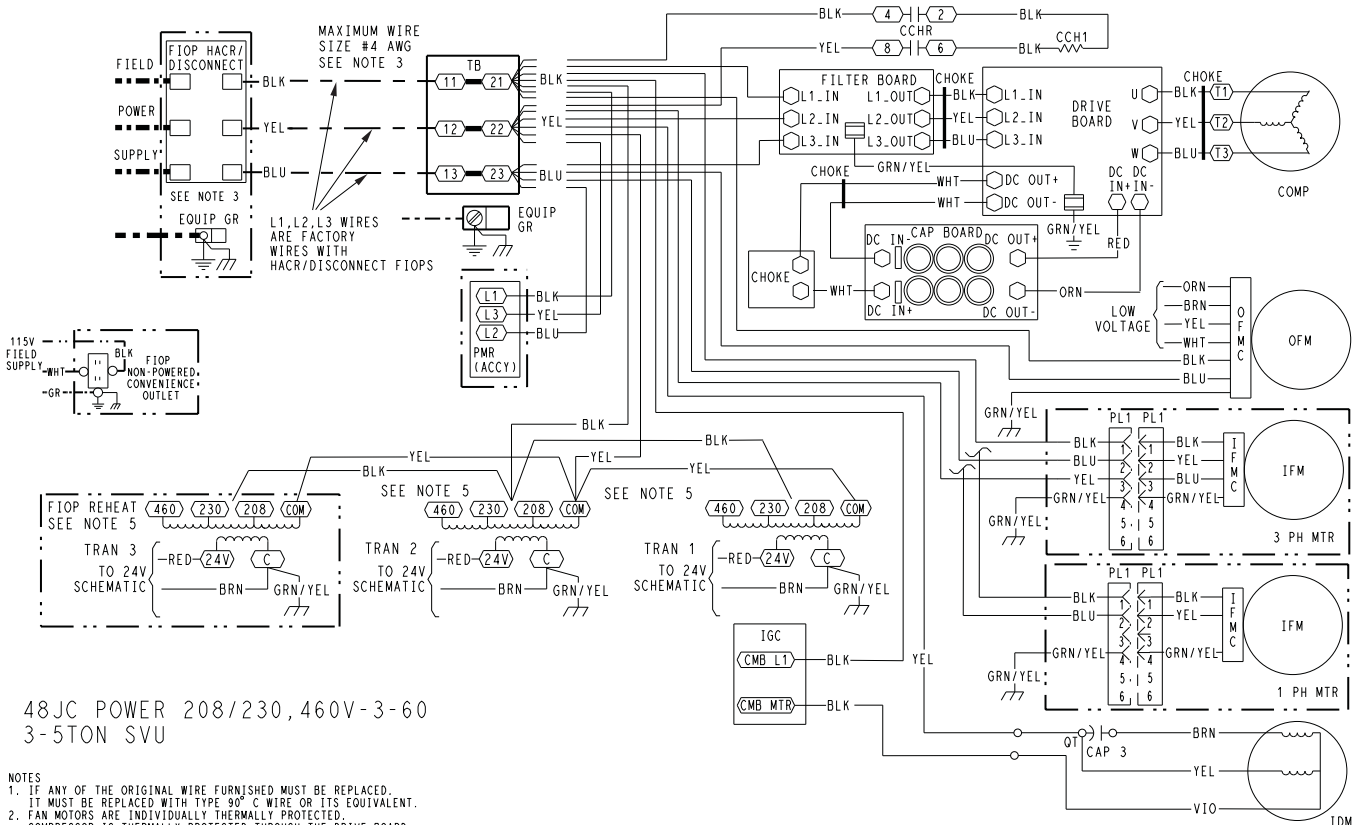
## 50JC\*\*06 ELECTRIC HEAT DATA — WITH NON-FUSED DISCONNECT

50JC UNIT SIZE	NOM. V-Ph-Hz	IFM TYPE	ELECTRIC HEATER PART NUMBER	NOM (kW)	APPLICATION (kW)	APPLICATION OUTPUT (MBH)	SINGLE POINT OR JUNCTION PART NUMBER CRSINGLEXXA00			
							NO C.O. OR UNPOWERED C.O.		w/PWRD C.O.	
							NO P.E.	w/P.E. (pwrd fr/unit)	NO P.E	w/P.E. (pwrd fr/unit)
208/230-3-60	STD	CRHEATER324A00	6.5	4.9/6.0	16.7/20.4	037	037	037	037	
		CRHEATER326A00	10.5	7.9/9.6	26.9/32.9	037	037	037	037	
		CRHEATER328A00	16.0	12.0/14.7	41.0/50.1	037	037	038	038	
		CRHEATER331A00	21.0	15.8/19.3	53.8/65.8	038	038	038	038	
		CRHEATER332A00	24.5	18.4/22.5	62.8/76.8	038	038	038	038	
		CRHEATER324A00	6.5	4.9/6.0	16.7/20.4	037	037	037	037	
		CRHEATER326A00	10.5	7.9/9.6	26.9/32.9	037	037	037	037	
		CRHEATER328A00	16.0	12.0/14.7	41.0/50.1	037	038	038	038	
		CRHEATER331A00	21.0	15.8/19.3	53.8/65.8	038	038	038	038	
		CRHEATER332A00	24.5	18.4/22.5	62.8/76.8	038	038	038	038	
	MED	CRHEATER324A00	6.5	4.9/6.0	16.7/20.4	037	037	037	037	
		CRHEATER326A00	10.5	7.9/9.6	26.9/32.9	037	037	037	037	
		CRHEATER328A00	16.0	12.0/14.7	41.0/50.1	037	038	038	038	
		CRHEATER331A00	21.0	15.8/19.3	53.8/65.8	038	038	038	038	
		CRHEATER332A00	24.5	18.4/22.5	62.8/76.8	038	038	038	038	
	HIGH	CRHEATER324A00	6.5	4.9/6.0	16.7/20.4	037	037	037	037	
		CRHEATER326A00	10.5	7.9/9.6	26.9/32.9	037	037	037	037	
		CRHEATER328A00	16.0	12.0/14.7	41.0/50.1	037	037	038	038	
		CRHEATER331A00	21.0	15.8/19.3	53.8/65.8	038	038	038	038	
		CRHEATER332A00	24.5	18.4/22.5	62.8/76.8	038	038	038	038	
**06	460-3-60	STD	CRHEATER333A00	6.0	5.5	18.8	—	—	—	—
			CRHEATER335A00	11.5	10.6	36.0	—	—	—	—
			CRHEATER336A00	14.0	12.9	43.9	—	—	—	—
			CRHEATER337A00	21.5	19.7	67.4	037	037	037	037
			CRHEATER338A00	24.0	22.0	75.2	037	037	037	037
		MED	CRHEATER333A00	6.0	5.5	18.8	—	—	—	—
			CRHEATER335A00	11.5	10.6	36.0	—	—	—	—
			CRHEATER336A00	14.0	12.9	43.9	—	—	—	—
			CRHEATER337A00	21.5	19.7	67.4	037	037	037	037
			CRHEATER338A00	24.0	22.0	75.2	037	037	037	037
	HIGH	CRHEATER333A00	6.0	5.5	18.8	—	—	—	—	
		CRHEATER335A00	11.5	10.6	36.0	—	—	—	—	
		CRHEATER336A00	14.0	12.9	43.9	—	—	—	—	
		CRHEATER337A00	21.5	19.7	67.4	037	037	037	037	
		CRHEATER338A00	24.0	22.0	75.2	037	037	037	037	
	575-3-60	STD	CRHEATER340A00	15.0	13.8	47.0	—	—	—	—
			CRHEATER341A00	21.0	19.3	65.8	037	037	037	037
		MED	CRHEATER340A00	15.0	13.8	47.0	—	—	—	—
			CRHEATER341A00	21.0	19.3	65.8	037	037	037	037
		HIGH	CRHEATER340A00	15.0	13.8	47.0	—	—	—	—
CRHEATER341A00			21.0	19.3	65.8	037	037	037	037	

TYPICAL CONTROL WIRING DIAGRAM — 48JC 04-06 UNIT



## TYPICAL POWER WIRING DIAGRAM — 48JC 04-06, 208-230, 460/3/60 UNIT SHOWN



48JC POWER 208/230, 460V-3-60  
3-5TON SVU

**NOTES**

- IF ANY OF THE ORIGINAL WIRE FURNISHED MUST BE REPLACED, IT MUST BE REPLACED WITH TYPE 90° C WIRE OR ITS EQUIVALENT.
- FAN MOTORS ARE INDIVIDUALLY THERMALLY PROTECTED. COMPRESSOR IS THERMALLY PROTECTED THROUGH THE DRIVE BOARD.
- USE COPPER CONDUCTOR ONLY.
- DO NOT DISCONNECT POWER PLUG OR SIGNAL WIRE WHILE UNDER LOAD.
- ON 208/230V UNITS, TRAN IS WIRED FOR 230V. IF UNIT IS TO BE RUN WITH 208V POWER SUPPLY, DISCONNECT BLK WIRE FROM 230V TAP AND CONNECT TO 208V TAP. ON 460V UNITS, ONLY A 460V TAP WILL BE CONNECTED.

**LEGEND**

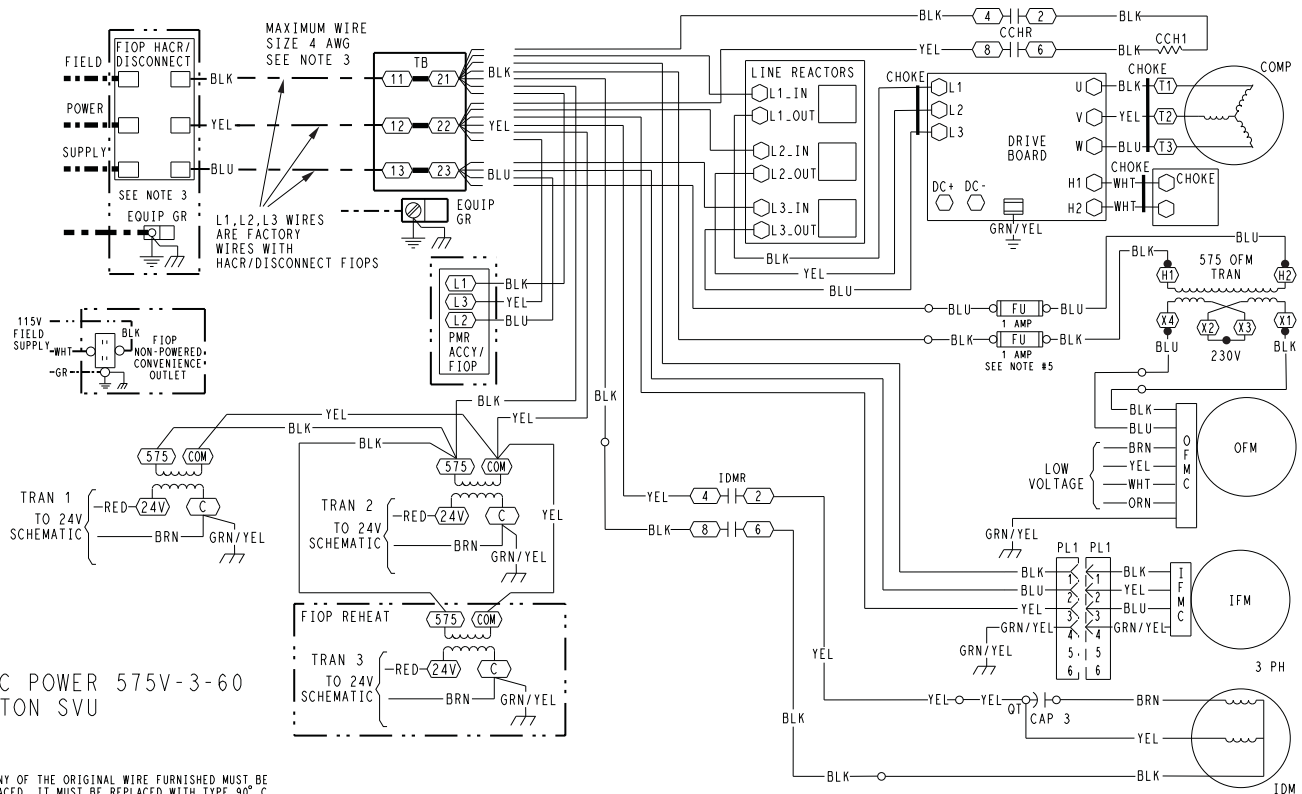
- (Y) MARKED WIRE
- (X) TERMINAL (MARKED)
- (O) TERMINAL (UNMARKED)
- (X) TERMINAL BLOCK
- SPLICE
- (S) SPLICE (MARKED)
- FACTORY WIRING
- - - FIELD CONTROL WIRING
- - - - - FIELD POWER WIRING
- - - - - CIRCUIT BOARD TRACE
- - - - - ACCESSORY OR OPTIONAL WIRING

- ACCY ACCESSORY
- AUX AUXILIARY
- AWG AMERICAN WIRE GAGE
- BAS BUILDING AUTOMATION NETWORK
- CC CONTACTOR, COMPRESSOR
- C COMMON
- CAP CAPACITOR
- CB CIRCUIT BREAKER
- CCH CRANKCASE HEATER
- CCHR CRANKCASE HEATER RELAY
- CLV COOLING LIQUID VALVE
- CMB CENTRIFUGAL MOTOR BLOWER
- COFS CONDENSATE OVERFLOW SWITCH
- COM SIGNAL COMMON
- COMP COMPRESSOR MOTOR
- DDC DIRECT DIGITAL CONTROL
- EHR ELECTRIC HEAT RELAY
- ENTH ENTHALPY
- EQUIP EQUIPMENT
- ERV ENERGY RECOVERY VENTILATOR
- FB FUSE BLOCK
- FIOP FACTORY INSTALLED OPTION
- FS FLAME SWITCH
- FU FUSE
- S THERMOSTAT FAN CALL
- GR(GND) GROUND
- GV GAS VALVE

- HACR HEATING, AIR-CONDITIONING, REFRIGERATION BREAKER
- HGRH HOT GAS REHEAT
- IDMR INDUCED DRAFT RELAY
- LS LIMIT SWITCH
- LSM LIMIT SWITCH (MANUAL RESET)
- MBB MAIN BASE BOARD
- MOV METAL OXIDE VARISTOR
- MTR MOTOR
- OAQ OUTDOOR AIR QUALITY
- OAT OUTDOOR AIR TEMP SEN
- OFM OUTDOOR FAN MOTOR
- OFMC OUTDOOR FAN MOTOR CONTROL
- PER POWER EXHAUST RELAY
- PH PHASE
- PI PLUG ASSEMBLY
- POT POTENTIOMETER
- PS PRESSURE SWITCH
- PWM PULSE WIDTH MODULATION
- QT QUADRUPLE TERMINA
- R THERMOSTAT POWER
- RAT RETURN AIR TEMP SEN
- RDV REHEAT DISCHARGE VALVE
- RH RELATIVE HUMIDITY
- RLV REHEAT LIQUID VALVE
- RNET LOCAL ACCESS NETWORK
- RS ROLLOUT SWITCH
- SAT SUPPLY AIR TEMP SENSOR
- SDP SYSTEM DISCHARGE PRESSURE
- SPRH SPACE RELATIVE HUMIDITY
- SPT SPACE TEMPERATURE SENSOR
- SPTO SPACE TEMPERATURE OFFSET
- SSP SYSTEM SUCTION PRESSURE
- STD STANDARD
- SW SWITCH
- TB TERMINAL BLOCK
- TRAN TRANSFORMER
- W1 1st STAGE OF HEATING CALL
- W2 2nd STAGE OF HEATING CALL
- Y1 1st STAGE OF COOLING CALL
- Y2 2nd STAGE OF COOLING CALL

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## TYPICAL POWER WIRING DIAGRAM — 48JC 04-06, 575/3/60 UNIT SHOWN



48JC POWER 575V-3-60  
3-5TON SVU

- NOTES**
- IF ANY OF THE ORIGINAL WIRE FURNISHED MUST BE REPLACED, IT MUST BE REPLACED WITH TYPE 90° C WIRE OR ITS EQUIVALENT.
  - FAN MOTORS ARE INDIVIDUALLY THERMALLY PROTECTED. COMPRESSOR IS THERMALLY PROTECTED THROUGH THE DRIVE BOARD.
  - USE COPPER CONDUCTOR ONLY.
  - DO NOT DISCONNECT POWER PLUG OR SIGNAL WIRE WHILE UNDER LOAD.
  - THESE FUSES ARE MANUFACTURED BY COOPER BUSSMANN. P/N = FNG-R-1.

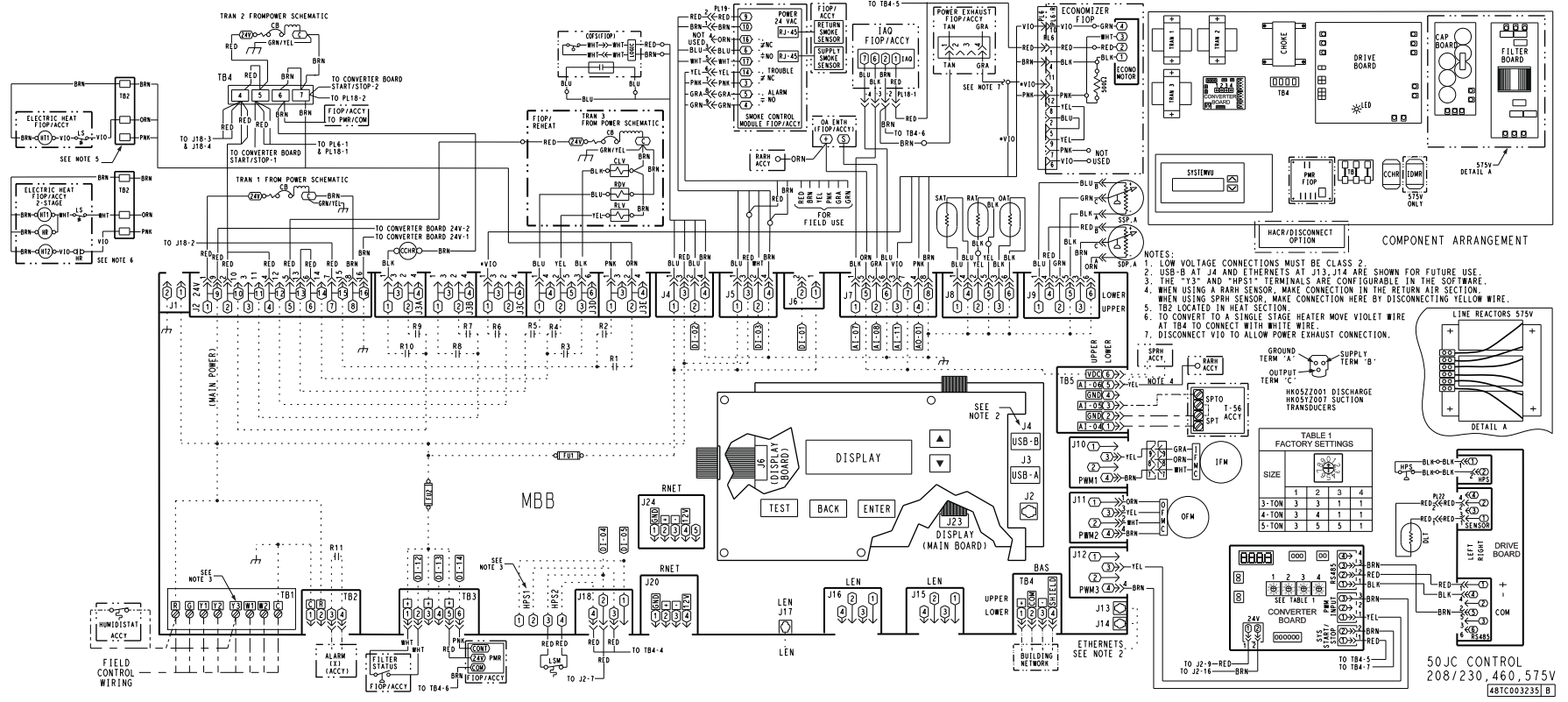
**LEGEND**

- MARKED WIRE
- TERMINAL (MARKED)
- TERMINAL (UNMARKED)
- TERMINAL BLOCK
- SPLICE
- SPLICE (MARKED)
- FACTORY WIRING
- FIELD CONTROL WIRING
- FIELD POWER WIRING
- CIRCUIT BOARD TRACE
- ACCESSORY OR OPTIONAL WIRING

- |         |  |      |                             |      |                           |
|---------|--|------|-----------------------------|------|---------------------------|
| ACCY    | ACCESSORY  | HPC  | HEAD PRESSURE CONTROL       | PER  | POWER EXHAUST RELAY       |
| AUX     | AUXILIARY  | HPS  | HIGH PRESSURE SWITCH        | PH   | PHASE                     |
| AWG     | AMERICAN WIRE GAGE                               | HR   | HEATER RELAY                | PI   | PLUG ASSEMBLY             |
| BAS     | BUILDING AUTOMATION NETWORK                      | HUM  | HUMIDISTAT                  | POT  | POTENTIOMETER             |
| CC      | CONTACTOR, COMPRESSOR                            | I    | IGNITOR                     | PMR  | PHASE MONITOR RELAY       |
| C       | COMMON   | IAQ  | INDOOR AIR QUALITY SENSORS  | PS   | PRESSURE SWITCH           |
| CAP     | CAPACITOR  | IDM  | INDUCED DRAFT MOTOR         | PWM  | PULSE WIDTH MODULATION    |
| CB      | CIRCUIT BREAKER                                  | IDMR | INDUCED DRAFT RELAY         | QT   | QUADRUPLE TERMINA         |
| CCH     | CRANKCASE HEATER                                 | IFM  | INDOOR FAN MOTOR            | R    | THERMOSTAT POWER          |
| CCHR    | CRANKCASE HEATER RELAY                           | IFMC | INDOOR FAN MOTOR CONTROL    | RAT  | RETURN AIR TEMP. SEN      |
| CLV     | COOLING LIQUID VALVE                             | IFO  | INDOOR FAN ON SIGNAL        | RDV  | REHEAT DISCHARGE VALVE    |
| CMB     | CENTRIFUGAL MOTOR BLOWER                         | IGC  | INTEGRATED GAS CONTROL      | RH   | RELATIVE HUMIDITY         |
| COFS    | CONDENSATE OVERFLOW SWITCH                       | I    | IGNITOR                     | RLV  | REHEAT LIQUID VALVE       |
| COM     | SIGNAL COMMON                                    | JMP  | JUMPER                      | RNET | LOCAL ACCESS NETWORK      |
| COMP    | COMPRESSOR MOTOR                                 | L1   | LINE 1                      | RS   | ROLLOUT SWITCH            |
| DDC     | DIRECT DIGITAL CONTROL                           | LEN  | LOCAL EQUIPMENT NETWORK     | SAT  | SUPPLY AIR TEMP SENSOR    |
| EHR     | ELECTRIC HEAT RELAY                              | LS   | LIMIT SWITCH                | SOP  | SYSTEM DISCHARGE PRESSURE |
| ENTH    | ENTHALPY   | LSM  | LIMIT SWITCH (MANUAL RESET) | SPRH | SPACE RELATIVE HUMIDITY   |
| EQUIP   | EQUIPMENT  | MBB  | MAIN BASE BOARDMMR          | SPT  | SPACE TEMPERATURE SENSOR  |
| ERV     | ENERGY RECOVERY VENTILATOR                       | MOV  | METAL OXIDE VARISTOR        | SPTO | SPACE TEMPERATURE OFFSET  |
| FB      | FUSE BLOCK                                       | MTR  | MOTOR                       | SSP  | SYSTEM SUCTION PRESSURE   |
| FIOF    | FACTORY INSTALLED OPTION                         | OAO  | OUTDOOR AIR QUALITY         | STD  | STANDARD                  |
| FS      | FLAME SWITCH                                     | OAT  | OUTDOOR AIR TEMP. SEN       | SW   | SWITCH                    |
| FU      | FUSE   | OAFM | OUTDOOR FAN MOTOR           | TB   | TERMINAL BLOCK            |
| G       | THERMOSTAT FAN CALL                              | OFMC | OUTDOOR FAN MOTOR CONTROL   | TRAN | TRANSFORMER               |
| GR(GND) | GROUND   |      |                             | W1   | 1st STAGE OF HEATING CALL |
| GV      | GAS VALVE  |      |                             | W2   | 2nd STAGE OF HEATING CALL |
| HACR    | HEATING, AIR-CONDITIONING, REFRIGERATION BREAKER |      |                             | Y1   | 1st STAGE OF COOLING CALL |
| HGRH    | HOT GAS REHEAT                                   |      |                             | Y2   | 2nd STAGE OF COOLING CALL |

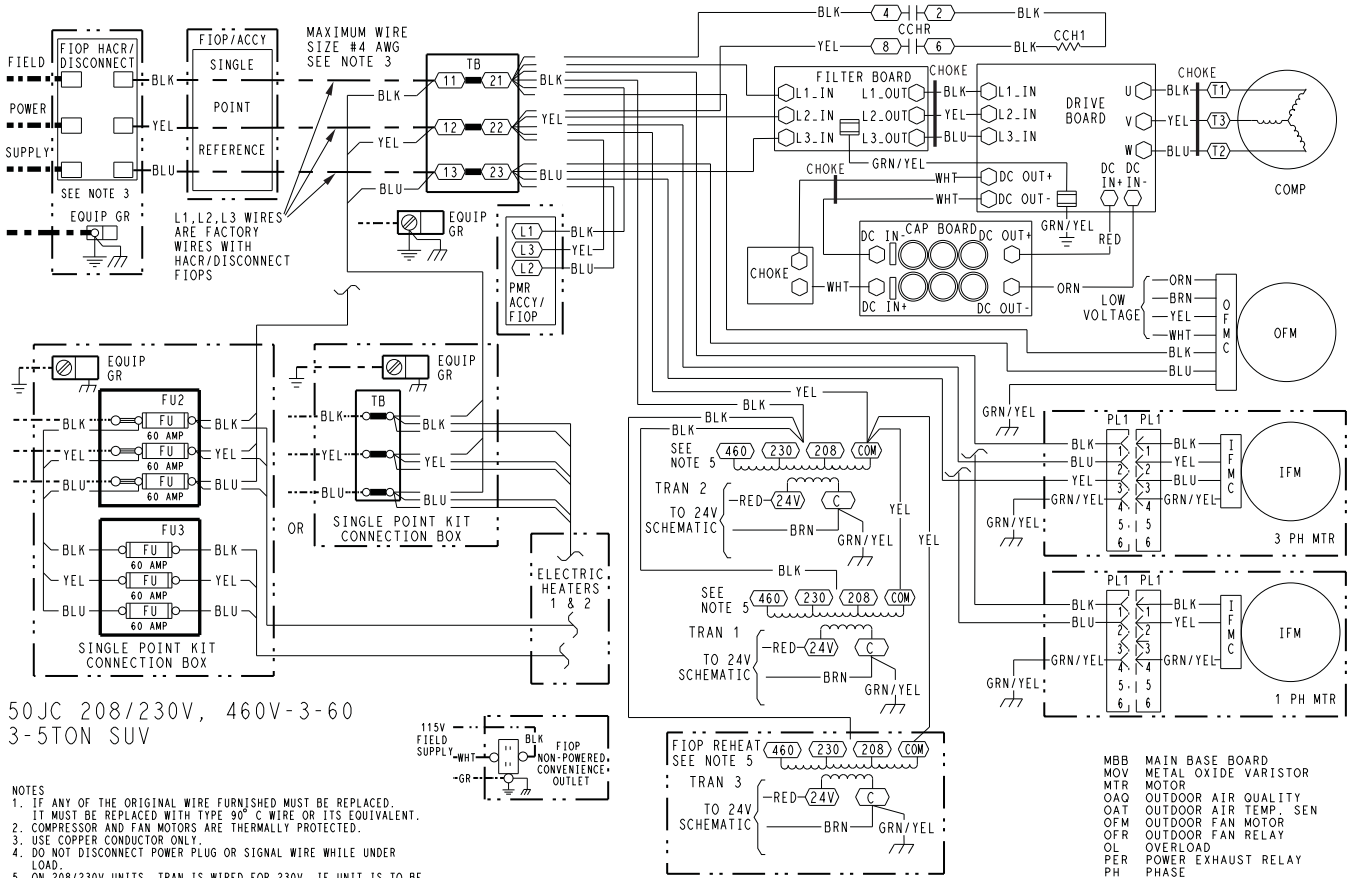
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TYPICAL CONTROL WIRING DIAGRAM — 50JC 04-06 UNIT



- NOTES:
1. LOW VOLTAGE CONNECTIONS MUST BE CLASS 2.
  2. USB-B AT J4 AND ETHERNETS AT J13, J14 ARE SHOWN FOR FUTURE USE.
  3. THE "13" AND "HPS1" TERMINALS ARE CONFIGURABLE IN THE SOFTWARE.
  4. WHEN USING A RARH SENSOR, MAKE CONNECTION IN THE RETURN AIR SECTION.
  5. TB2 LOCATED IN HEAT SECTION.
  6. TO CONVERT TO A SINGLE STAGE HEATER MOVE VIOLET WIRE AT TB4 TO CONNECT WITH WHITE WIRE.
  7. DISCONNECT VIO TO ALLOW POWER EXHAUST CONNECTION.

## TYPICAL POWER WIRING DIAGRAM — 50JC 04-06, 208-230, 460/3/60 UNIT SHOWN



- NOTES**
1. IF ANY OF THE ORIGINAL WIRE FURNISHED MUST BE REPLACED, IT MUST BE REPLACED WITH TYPE 90° C WIRE OR ITS EQUIVALENT.
  2. COMPRESSOR AND FAN MOTORS ARE THERMALLY PROTECTED.
  3. USE COPPER CONDUCTOR ONLY.
  4. DO NOT DISCONNECT POWER PLUG OR SIGNAL WIRE WHILE UNDER LOAD.
  5. ON 208/230V UNITS, TRAN IS WIRED FOR 230V. IF UNIT IS TO BE RUN WITH 208V POWER SUPPLY, DISCONNECT BLK WIRE FROM 230V TAP AND CONNECT TO 208V TAP.
- ON 460V UNITS, CONNECT BLK WIRE TO THE 460V TAP.

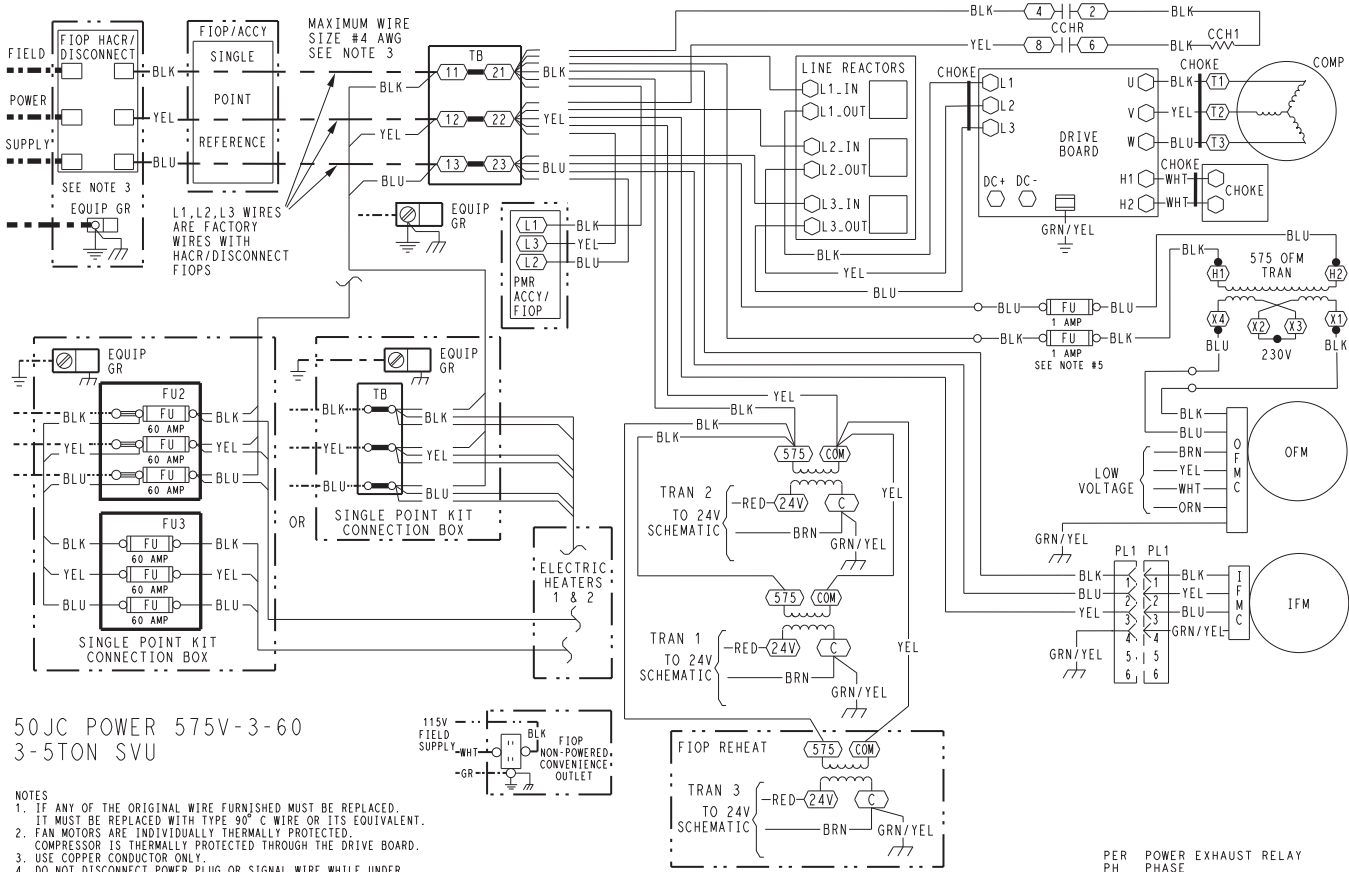
### LEGEND

- MARKED WIRE
- TERMINAL (MARKED)
- TERMINAL (UNMARKED)
- TERMINAL BLOCK
- SPLICE
- SPLICE (MARKED)
- FACTORY WIRING
- - - FIELD CONTROL WIRING
- - - FIELD POWER WIRING
- - - CIRCUIT BOARD TRACE
- - - ACCESSORY OR OPTIONAL WIRING

- |  |   |   |
|--|---|---|
| <p>ACCY ACCESSORY</p> <p>AWG AMERICAN WIRE GAGE</p> <p>BAS BUILDING AUTOMATION NETWORK</p> <p>CC CONTACTOR, COMPRESSOR COMMON</p> <p>CB CIRCUIT BREAKER</p> <p>CCH CRANKCASE HEATER</p> <p>CCHR CRANKCASE HEATER RELAY</p> <p>CCHTS CRANKCASE HEATER TEMP SWITCH</p> <p>CLO COMPRESSOR LOCKOUT</p> <p>CLV COOLING LIQUID VALVE</p> <p>COFS CONDENSATE OVERFLOW SWITCH</p> <p>COM SIGNAL COMMON</p> <p>COMP COMPRESSOR MOTOR</p> <p>DDC DIRECT DIGITAL CONTROL</p> <p>EHR ELECTRIC HEAT RELAY</p> <p>ENTH ENTHALPY</p> <p>ERV ENERGY RECOVERY VENTILATOR</p> <p>ESL ENTHALPY SENSOR - LOW</p> <p>FB FUSE BLOCK</p> <p>FIOP FACTORY INSTALLED OPTION</p> <p>FST FAN HOUSING TEMP SENSOR</p> <p>FU FUSE</p> | <p>G GR(ND) GROUND</p> <p>HACR HEATING, AIR-CONDITIONING, REFRIGERATION BREAKER</p> <p>HR HEATER RELAY</p> <p>HGRH HOT GAS REHEAT</p> <p>HPC HEAD PRESSURE CONTROL</p> <p>HPS HIGH PRESSURE SWITCH</p> <p>HUM HUMIDISTAT</p> <p>IAQ INDOOR AIR QUALITY SENSORS</p> <p>IFM INDOOR FAN MOTOR</p> <p>IFMC INDOOR FAN MOTOR CONTROL</p> <p>IFO INDOOR FAN ON SIGNAL</p> <p>IRH INDOOR RELATIVE HUMIDITY</p> <p>JMP JUMPER</p> <p>L1 LINE 1</p> <p>LA LOW AMBIENT LOCKOUT</p> <p>LAR LOW AMBIENT RELAY</p> <p>LAS LOW AMBIENT SWITCH</p> <p>LEN LOCAL EQUIPMENT NETWORK</p> <p>LOE LOSS OF CHARGE</p> <p>LOOP PWR CURRENT LOOP POWER</p> <p>LPS LOW PRESSURE SWITCH</p> <p>LS LIMIT SWITCH</p> <p>LSM LIMIT SWITCH (MANUAL RESET)</p> <p>LTLO LOW TEMP LOCKOUT</p> | <p>MBB MAIN BASE BOARD</p> <p>MOV METAL OXIDE VARISTOR</p> <p>MTR MOTOR</p> <p>OAQ OUTDOOR AIR QUALITY</p> <p>OAT OUTDOOR AIR TEMP. SEN</p> <p>OFM OUTDOOR FAN MOTOR</p> <p>OFR OUTDOOR FAN RELAY</p> <p>OL OVERLOAD</p> <p>PER POWER EXHAUST RELAY</p> <p>PH PHASE</p> <p>PL PLUG ASSEMBLY</p> <p>POT POTENTIOMETER</p> <p>PMR PHASE MONITOR RELAY</p> <p>PS PRESSURE SWITCH</p> <p>PWM PULSE WIDTH MODULATION</p> <p>QT QUADRUPLE TERMINAL</p> <p>R THERMOSTAT POWER</p> <p>RAT RETURN AIR TEMP. SEN</p> <p>RDV REHEAT DISCHARGE VALVE</p> <p>RH RELATIVE HUMIDITY</p> <p>RLV REHEAT LIQUID VALVE</p> <p>RNET LOCAL ACCESS NETWORK</p> <p>SAT SUPPLY AIR TEMP SENSOR</p> <p>SDP SYSTEM DISCHARGE PRESSURE</p> <p>SPRH SPACE RELATIVE HUMIDITY</p> <p>SPT SPACE TEMPERATURE SENSOR</p> <p>SPTO SPACE TEMPERATURE OFFSET</p> <p>SSP SYSTEM SUCTION PRESSURE</p> <p>SW SWITCH</p> <p>TB TERMINAL BLOCK</p> <p>TDR TIME DELAY RELAY</p> <p>TRAN TRANSFORMER</p> <p>W1 1st STAGE OF HEATING CALL</p> <p>W2 2nd STAGE OF HEATING CALL</p> <p>Y1 1st STAGE OF COOLING CALL</p> <p>Y2 2nd STAGE OF COOLING CALL</p> |
|--|---|---|

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## TYPICAL POWER WIRING DIAGRAM — 50JC 04-06, 575/3/60 UNIT SHOWN



50JC POWER 575V-3-60  
3-5TON SVU

- NOTES
- IF ANY OF THE ORIGINAL WIRE FURNISHED MUST BE REPLACED, IT MUST BE REPLACED WITH TYPE 90° C WIRE OR ITS EQUIVALENT.
  - FAN MOTORS ARE INDIVIDUALLY THERMALLY PROTECTED. COMPRESSOR IS THERMALLY PROTECTED THROUGH THE DRIVE BOARD.
  - USE COPPER CONDUCTOR ONLY.
  - DO NOT DISCONNECT POWER PLUG OR SIGNAL WIRE WHILE UNDER LOAD.
  - THESE FUSES ARE MANUFACTURED BY COOPER BUSSMANN. P/N - FNG-R-1.

### LEGEND

- (X) MARKED WIRE
- (X) TERMINAL (MARKED)
- ( ) TERMINAL (UNMARKED)
- (X) TERMINAL BLOCK
- SPLICE
- SPLICE (MARKED)
- FACTORY WIRING
- - - FIELD CONTROL WIRING
- - - - FIELD POWER WIRING
- - - - - CIRCUIT BOARD TRACE
- - - - - ACCESSORY OR OPTIONAL WIRING

- ACCY ACCESSORY
- AWG AMERICAN WIRE GAGE
- AUX AUXILIARY
- BAS BUILDING AUTOMATION NETWORK
- CC CONTACTOR, COMPRESSOR COMMON
- CAP CAPACITOR
- CB CIRCUIT BREAKER
- CCH CRANKCASE HEATER
- CCHR CRANKCASE HEATER RELAY
- CLV COOLING LIQUID VALVE
- COPS CONDENSATE OVERFLOW SWITCH
- COM SIGNAL COMMON
- COMP COMPRESSOR MOTOR
- DCD DIRECT DIGITAL CONTROL
- EHR ELECTRIC HEAT RELAY
- ENTH ENTHALPY
- ERV ENERGY RECOVERY VENTILATOR
- FB FUSE BLOCK
- FIOF FACTORY INSTALLED OPTION
- FU FUSE
- G THERMOSTAT FAN CALL
- GR(GND) GROUND

- HACR HEATING, AIR-CONDITIONING, REFRIGERATION BREAKER
- HR HEATER RELAY
- HGRH HOT GAS REHEAT
- HPC HEAD PRESSURE CONTROL
- HPS HIGH PRESSURE SWITCH
- HUM HUMIDISTAT
- IAO INDOOR AIR QUALITY SENSORS
- IFM INDOOR FAN MOTOR
- IFMC INDOOR FAN MOTOR CONTROL
- IFO INDOOR FAN ON SIGNAL
- JMP JUMPER
- L1 LINE 1
- LEN LOCAL EQUIPMENT NETWORK
- LS LIMIT SWITCH
- LSM LIMIT SWITCH (MANUAL RESET)
- MBB MAIN BASE BOARD
- MOV METAL OXIDE VARISTOR
- MTR MOTOR
- OAO OUTDOOR AIR QUALITY
- OAT OUTDOOR AIR TEMP. SEN
- OFM OUTDOOR FAN MOTOR
- OFMC OUTDOOR FAN MOTOR CONTROL

- PER POWER EXHAUST RELAY
- PH PHASE
- PL PLUG ASSEMBLY
- POT POTENTIOMETER
- PMR PHASE MONITOR RELAY
- PS PRESSURE SWITCH
- PWM PULSE WIDTH MODULATION
- QT QUADRUPLE TERMINAL
- R THERMOSTAT POWER
- RAT RETURN AIR TEMP. SEN
- RDV REHEAT DISCHARGE VALVE
- RH RELATIVE HUMIDITY
- RLV REHEAT LIQUID VALVE
- RNET LOCAL ACCESS NETWORK
- SAT SUPPLY AIR TEMP SENSOR
- SDP SYSTEM DISCHARGE PRESSURE
- SPRH SPACE RELATIVE HUMIDITY
- SPT SPACE TEMPERATURE SENSOR
- SPTO SPACE TEMPERATURE OFFSET
- SSP SYSTEM SUCTION PRESSURE
- STD STANDARD
- SW SWITCH
- TB TERMINAL BLOCK
- TRAN TRANSFORMER
- W1 1st STAGE OF HEATING CALL
- W2 2nd STAGE OF HEATING CALL
- Y1 1st STAGE OF COOLING CALL
- Y2 2nd STAGE OF COOLING CALL

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# Sequence of operation



## General

The unit is optimized to control the space comfort conditions directly through a space sensor for single zone variable air volume (SZVAV) control. The unit can also be controlled traditionally with a conventional thermostat or a standard factory furnished direct return air control. Using space sensor or return air control the unit will use the temperature and setpoints to determine heating and cooling demands. Using thermostat control, the thermostat will relay the cooling and heating demands to the unit and the change in return air will assist with cooling control. The unit is compatible with BACnet, I-Vu, or CCN building systems plus supports linkage on zoning using CCN VVT and i-Vu® Open VVT controls.

## Standby Operation

Standby is when there is no cooling or heating demand on the unit. During this time ventilation will run if the unit is equipped with an economizer and continuous fan. When not equipped with economizer the supply fan will run for circulation with continuous fan. The supply fan will run at the user defined ventilation speed. When not under continuous fan the supply fan will be off until cooling, heating, or ventilation demand is needed.

## Cooling Operation

During cooling operation, the control will use the space temperature or return air sensor to drive a (Proportional Integral (PI) control to vary the compressor speed to satisfy the cooling demand. The supply fan and outdoor fan speeds will vary with the compressor speed to maintain an efficient operation of the refrigerant system. The supply air sensor will be used to help temper the cooling capacity as needed. The unit is designed to operate from a nominal capacity down to 25% and up to 105% providing it is within the unit's operating limit.

## Additional Economizer Operation

When equipped with an energy savings / fresh air economizer, the outside air with a PI control will be used to satisfy the cooling demand. The supply fan will run at the user defined free cooling speed or the user defined cooling design speed while varying the economizer damper for free cooling. If the damper is not enough to satisfy the cooling demand, the compressor speed will be varied as needed to help as integrated cooling.

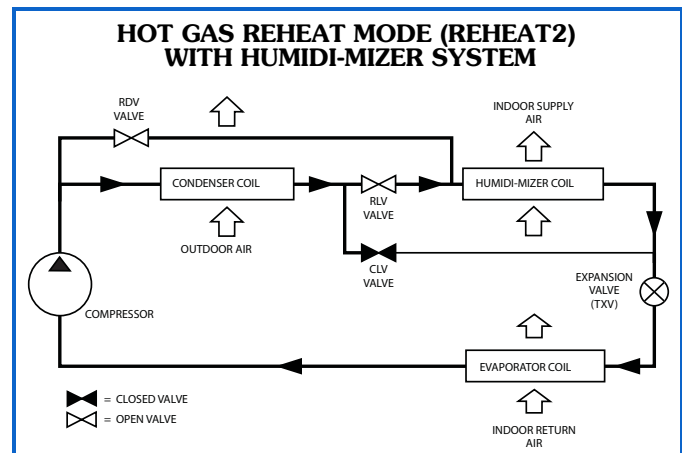
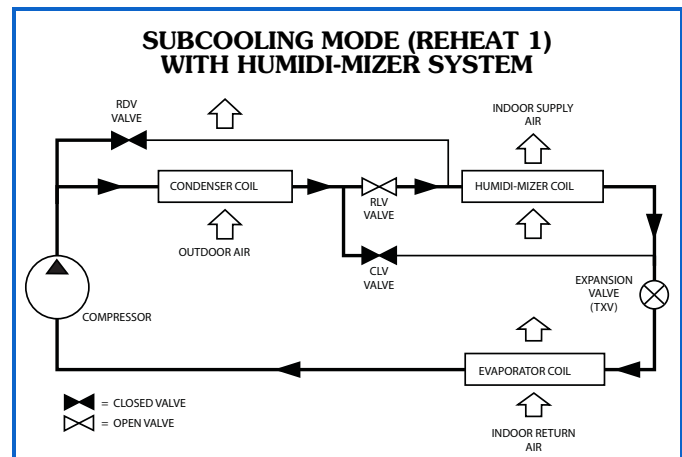
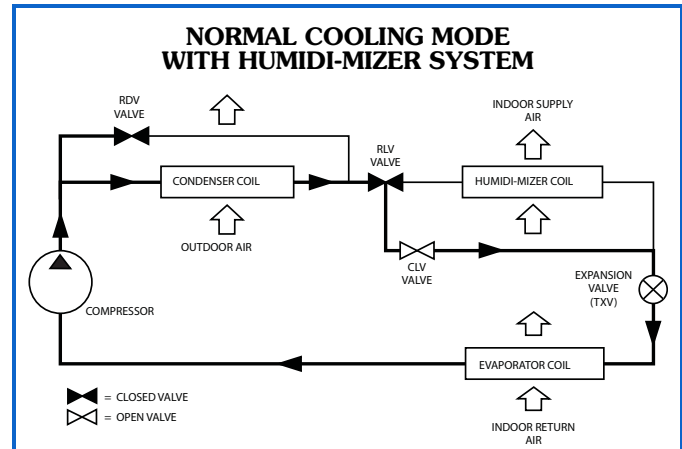
## Heating Operation

During heating operation, the heat (gas or electric) will be staged up and down to satisfy the heating demand. The supply fan will run at the user defined heating speed while performing heating. The supply air sensor will restrict heating as needed to prevent high discharge air temperatures.

## Dehumidification Operation

The unit can perform dehumidification operation in two ways: Factory-installed option Humidi-MiZer® system or a SystemVu™ controller standard feature, Supply Fan based dehumidification operation. When equipped with Humidi-MiZer option, the compressor speed and supply fan will operate at a fixed speed, and the outdoor fan will vary for head pressure control. These are used with the integrated reheat coil to provide two types of dehumidification operation: Hot gas reheat and Subcooling. Hot gas reheat uses the system to provide maximum latent cooling, while subcooling provides an improved mixture of latent and sensible cooling. When not equipped with the humidifier option the supply fan can be used to help provide dehumidification. During this type of dehumidification the

system will operate with normal cooling operation but the supply air sensor and suction pressure will be used to decrease the supply fan to improve latent cooling. See the following figures.



For more information, on the SystemVu controller refer to the 48/50JC 04-06 Single Package Rooftop Units with SystemVu Controller Controls, Start-up, Operation and Troubleshooting manual.

## Minimum operating ambient temperature (cooling)

In mechanical cooling mode, your Carrier rooftop unit can safely operate down to an outdoor ambient temperature of 35°F (2°C). It is possible to provide cooling at lower outdoor ambient temperatures by using less outside air and/or economizers.

## Maximum operating ambient temperature (cooling)

The maximum operating ambient temperature for cooling mode is 125°F (52°C). While cooling operation above 125°F (52°C) may be possible, it could cause either a reduction in performance, reliability, or a protective action by the unit's internal safety devices.

## Multiple motor and drive packages

Some applications need larger horsepower motors, some need more airflow, and some need both. Regardless of the case, your Carrier expert has a factory installed combination to meet your application. A wide selection of motors and pulleys (drives) are available, factory installed, to handle nearly any application.

## Stainless steel heat exchanger (48JC units only)

The stainless steel heat exchanger option provides the tubular heat exchanger be made out of a minimum 20 gage type 409 stainless steel for applications where the mixed air to the heat exchanger is expected to drop below 45°F (7°C). Stainless steel may be specified on applications where the presence of airborne contaminants require its use (applications such as paper mills) or in area with very high outdoor humidity that may result in severe condensation in the heat exchanger during cooling operation.

## Minimum mixed air temperature (heating) (48JC units only)

Using the factory settings, the minimum temperatures for the mixed air (the combined temperature of the warm return air and the cold outdoor air) entering the dimpled, gas heat exchangers are shown in the following table.

**MINIMUM TEMPERATURE FOR MIXED AIR TEMPERATURE**

ALUMINIZED	STAINLESS STEEL
50°F (10°C) Continuous	40°F (4°C) Continuous
45°F (7°C) Intermittent	35°F (2°C) Intermittent

Operating at lower mixed-air temperatures may be possible, if a field-supplied, outdoor air thermostat initiates both heat stages when the temperature is less than the minimum temperatures listed above. Please contact your local Carrier representative for assistance.

## Minimum and maximum airflow (heating and cooling)

To maintain safe and reliable operation of your rooftop, operate within the heating airflow limits during heating mode and cooling airflow limits during cooling mode. Operating above the max may cause blow-off, undesired airflow noise, or airflow related problems with the rooftop unit. Operating below the min may cause problems with coil freeze-up and unsafe heating operation. Heating and cooling limitations differ when evaluating operating CFM, the minimum value is the HIGHER of the cooling and heating minimum CFM values published on page 9 and the maximum value is the LOWER of the cooling and heating minimum values published on page 9.

## Heating-to-cooling changeover

Your unit will automatically change from heating to cooling mode when using a thermostat with an auto-changeover feature.

## Airflow

All units are draw-through in cooling mode and blow-through in heating mode.

## Outdoor air application strategies

Economizers reduce operating expenses and compressor run time by providing a free source of cooling and a means of ventilation to match application changing needs. In fact, they should be considered for most applications. Also, consider the various economizer control methods and their benefits, as well as sensors required to accomplish your application goals. Please contact your local Carrier representative for assistance.

## Motor limits, break horsepower (BHP)

Due to internal design of Carrier units, the air path, and specially designed motors, the full horsepower (maximum continuous BHP) band, as listed in the Fan Performance tables, can be used with the utmost confidence. There is no need for extra safety factors, as Carrier motors are designed and rigorously tested to use the entire, listed BHP range without either nuisance tripping or premature motor failure.

## Propane heating (48JC units only)

Propane has different physical qualities than natural gas. As a result, propane requires different fuel to air mixture. To optimize the fuel/air mixture for propane, Carrier sells different burner orifices in an easy to install accessory kit. To select the correct burner orifices or determine the heat capacity for a propane application, use either the selection software, or the unit's service manual.

## High altitude heating

High altitudes have less oxygen, which affects the fuel/air mixture in heat exchangers. In order to maintain a proper fuel/air mixture, heat exchangers operating in altitudes above 2000 ft (610 m) require different orifices. To select the correct burner orifices or determine the heat capacity for a high altitude application, use either the selection software, or the unit's service manual.

High altitudes have less oxygen, which means heat exchangers need less fuel. The new gas orifices in this field-installed kit make the necessary adjustment for high altitude applications. They restore the optimal fuel to air mixture and maintain healthy combustion on altitudes above 2000 ft (610 m).

NOTE: Typical natural gas heating value ranges from 975 to 1050 Btu/ft<sup>3</sup> at sea level nationally. The heating value goes down approximately 1.7% per every thousand feet elevation. Standard factory orifices can typically be used up to 2000 ft (610 m) elevation without any operational issues.

## Sizing a rooftop

Bigger is not necessarily better. While an air conditioner needs to have enough capacity to meet the design loads, it does not need excess capacity. In fact, excess capacity typically results in very poor part load performance and humidity control.

Using higher design temperatures than ASHRAE recommends for your location, adding "safety factors" to the calculated load, are all signs of oversizing air conditioners.

Oversizing the air conditioner leads to poor humidity control, reduced efficiency, higher utility bills, larger indoor temperature swings, excessive noise, and increased wear and tear on the air conditioner.

Rather than oversizing an air conditioner, engineers should “right-size” or even slightly “under-size” air conditioners. Correctly sizing an air conditioner controls humidity better; promotes efficiency; reduces utility bills; extends equipment life, and maintains even, comfortable temperatures. Please contact your local Carrier representative for assistance.

Note about this specification:

This specification is in the “Masterformat” as published by the Construction Specification Institute. Please feel free to copy this specification directly into your building spec.



## Ultra High Efficiency Gas Heat/Electric Cooling Packaged Rooftop

### HVAC Guide Specifications

Size Range: **3 to 5 Nominal Tons**

Carrier Model Number: **48JC\*04-06**

### Part 1 — (23 06 80) Schedules for Decentralized HVAC Equipment

1.01 (23 06 80.13) Decentralized Unitary HVAC Equipment Schedule:

- A. 23 06 80.13.A.) Rooftop unit (RTU) schedule:
  - 1. Schedule is per the project specification requirements.

### Part 2 — (23 07 16) HVAC equipment insulation

2.01 (23 07 16.13) Decentralized, Rooftop Units:

- A. (23 07 16.13.A.) Evaporator fan compartment:
  - 1. Interior cabinet surfaces shall be insulated with a minimum 1/2-in. thick, minimum 1 1/2-lb density, flexible fiberglass insulation bonded with a phenolic binder, neoprene coated on the air side.
  - 2. Insulation and adhesive shall meet NFPA 90A requirements for flame spread and smoke generation.
- B. (23 07 16.13.B.) Gas Heat Compartment:
  - 1. Aluminum foil-faced fiberglass insulation shall be used.
  - 2. Insulation and adhesive shall meet NFPA 90A requirements for flame spread and smoke generation.

### Part 3 — (23 09 13) Instrumentation and control devices for HVAC

3.01 (23 09 13.23) Sensors and Transmitters:

- A. (23 09 13.23.A.) Thermostats:
  - 1. Thermostat must
    - a. energize both “W” and “G” when calling for heat.
    - b. have capability to energize up to 2 stages of cooling, and 2 different stages of heating.
    - c. include capability for occupancy scheduling.

### Part 4 — (23 09 23) Direct Digital Control system for HVAC

4.01 (23 09 23.13) Decentralized, Rooftop Units:

- A. (23 09 23.13.A.) SystemVu™ intelligent integrated unit controller with Direct Digital Control (DDC) capability:
  - 1. Integrated unit operation for comfort cooling, heating ventilation as well as all monitoring, recording and reporting capabilities. Controller

shall also provide diagnostics and alarms of abnormal unit operation through the controller. Controller shall have an intuitive user display and be able to be used in a standalone operation or via building automation system (BAS).

- 2. Quick Unit Status LEDs of: Run – meaning all systems are go, ALERT – that indicates there is currently a non-critical issue with the unit, like filters need to be replaced and FAULT – that indicates the unit has a critical issue and will possibly shut down.
- 3. Six large navigation keys for easy access. Navigation keys shall consist of: TEST, BACK, ENTER, and MENU along with UP and DOWN arrows.
- 4. Full back lit user display with 4 line by 30 character text capabilities. Display menu shall be designed to provide guided major menus and sub menus main menus provided below:
  - a. Shutdown Unit
  - b. Run Status
  - c. Settings
  - d. Alerts/Faults
  - e. Service
  - f. Inputs
  - g. Outputs
  - h. USB
- 5. The capability for standalone operation with conventional thermostat/sensor or use with building automation systems (BAS) of Carrier i-Vu®, BACnet and Carrier Comfort Network® (CCN) systems. No special modules or boards are required for these capabilities. Has the capability to work with Equipment Touch™ and System Touch™ devices and ZS Sensors.
- 6. The ability to read refrigerant pressures at display or via BAS network of; Discharge Pressure and Suction Pressure. The need for traditional refrigerant gages is not required.
- 7. USB Data Port for flash drive interaction. This will allow the transfer of data for uploads, downloads, perform software upgrades, back-up and restore data and file transfer data such as component number of starts and run hours.
- 8. Reverse Rotation Protection of compressors if field three phase wiring is misapplied.
- 9. Provide Service Capabilities of:
  - a. Auto run test
  - b. Manual run test
  - c. Component run hours and starts
  - d. Commissioning reports
  - e. Data logging
  - f. Alarm history
- 10. Economizer control and diagnostics. Set up economizer operation, receive feedback from actuator. Also meets the most recent California

Title 24, ASHRAE 90.1 and IECC Fault Detection and Diagnostic (FDD) requirements.

11. Unit cooling operation down to 0°F (-17°C).
12. Controller shall have easy access connections around the controller perimeter area and consist of Mate-N-Lok<sup>1</sup>, terminal block and RJ style modular jack connections.
13. 365 day real time clock, 20 holiday schedules along with occupied and unoccupied scheduling.
14. Auto-Recognition for easy installation and commissioning of devices like economizers, space sensors etc.
15. A 5°F temperature difference between cooling and heating set points to meet the latest ASHRAE 90.1 Energy Standard.
16. Contain return air sensor, supply air sensor and outdoor air sensor to help monitor and provide data for the unit comfort operation, diagnostic and alarms.
17. Use of Carrier's field accessory hand-held Navigator™ display, Equipment Touch and System Touch devices.
18. Units with the factory-installed Humidi-MiZer® system option are capable of providing multiple modes of improved dehumidification as a variation of the normal cooling cycle.
19. Supply Air Tempering control operates the gas or electric heat to maintain a minimum supply air temperature during conditions where very cold outdoor air causes the supply air temperature to fall below the configured Supply Air Tempering Setpoint. This occurs during periods where DCV is active and increasing the amount of outdoor air or in cases where the system is operating at very low airflow and the calculated economizer position has increased to maintain a constant ventilation rate.
20. Demand limiting in SystemVu™ is achieved through set point expansion. The systems heating and cooling set points are expanded in steps or levels. The degree to which the set points may be expanded is defined by the 6 demand level offsets and the 2 commanded demand limit levels.
21. 3-year limited part warranty.

#### **Part 5 — (23 09 33) Electric and Electronic Control System for HVAC**

5.01 (23 09 33.13) Decentralized, Rooftop Units:

- A. (23 09 33.13.A.) General:
  1. Shall be complete with self-contained low-voltage control circuit protected by a resettable circuit breaker on the 24-v transformer side. Unit shall have multiple transformers with 75VA capability.

2. Shall utilize color-coded wiring.
3. The heat exchanger shall be controlled by an integrated gas controller (IGC) microprocessor. See heat exchanger section of this specification.
4. Unit shall include a minimum of one 8-pin screw terminal connection board for connection of control wiring.

B. (23 09 33.13.B.) Safeties:

1. Compressor over-temperature, over-current. High internal pressure differential.
2. Low pressure switch.
  - a. Low pressure switch shall use different color wire than the high pressure switch. The purpose is to assist the installer and service technician to correctly wire and or troubleshoot the rooftop unit.
3. High pressure switch.
  - a. High pressure switch shall use different color wire than the low pressure switch. The purpose is to assist the installer and service technician to correctly wire and or troubleshoot the rooftop unit.
4. Automatic reset, motor thermal overload protector.
5. Heating section shall be provided with the following minimum protections:
  - a. High temperature limit switches.
  - b. Induced draft motor speed sensor.
  - c. Flame rollout switch.
  - d. Flame proving controls.

#### **Part 6 — (23 09 93) Sequence of Operations for HVAC Controls**

6.01 (23 09 93.13) Decentralized, Rooftop Units:

- A. (23 09 93.13.A.) INSERT SEQUENCE OF OPERATION

#### **Part 7 — (23 40 13) Panel Air Filters**

7.01 (23 40 13.13) Decentralized, Rooftop Units:

- A. (23 40 13.13.A.) Standard filter section
  1. Shall consist of factory installed, low velocity, disposable 2-in. thick fiberglass filters of commercially available sizes.
  2. Unit shall use only one filter size. Multiple sizes are not acceptable.
  3. Filters shall be accessible through an access panel with "no-tool" removal as described in the unit cabinet section of this specification (23 81 19.13.G).

#### **Part 8 — (23 81 19) Self-Contained Air Conditioners**

8.01 (23 81 19.13) Small-Capacity Self-Contained Air Conditioners:

- A. (23 81 19.13.A.) General:
  1. Outdoor, rooftop mounted, electrically controlled, heating and cooling unit utilizing a fully

1. Mate-N-Lok is a registered trademark of the Whitaker Corporation.

hermetic scroll compressor(s) for cooling duty and gas combustion for heating duty.

2. Factory assembled, single-piece heating and cooling rooftop unit. Contained within the unit enclosure shall be all factory wiring, piping, controls, and special features required prior to field start-up.
  3. Unit shall use Puron® (R-410A) refrigerant.
  4. Unit shall be installed in accordance with the manufacturer's instructions.
  5. Unit must be selected and installed in compliance with local, state, and federal codes.
- B. (23 81 19.13.B.) Quality Assurance:
1. Unit meets and exceeds ASHRAE 90.1 minimum efficiency requirements.
  2. Unit shall be rated in accordance with AHRI Standards 210/240.
  3. Unit shall be designed to conform to ASHRAE 15.
  4. Unit shall be UL-tested and certified in accordance with ANSI Z21.47 Standards and UL-listed and certified under Canadian standards as a total package for safety requirements.
  5. Insulation and adhesive shall meet NFPA 90A requirements for flame spread and smoke generation.
  6. Unit casing shall be capable of withstanding 500-hour salt spray exposure per ASTM B117 (scribed specimen).
  7. Unit shall be designed in accordance with ISO 9001, and shall be manufactured in a facility registered by ISO 9001:2015.
  8. Roof curb shall be designed to conform to NRCA Standards.
  9. Unit shall be subjected to a completely automated run test on the assembly line. The data for each unit will be stored at the factory, and must be available upon request.
  10. Unit shall be designed in accordance with UL Standard 1995, including tested to withstand rain.
  11. Unit shall be constructed to prevent intrusion of snow and tested to prevent snow intrusion into the control box up to 40 mph.
  12. Unit shake tested to assurance level 1, ASTM D4169 to ensure shipping reliability.
- C. (23 81 19.13.C.) Delivery, Storage, and Handling:
1. Unit shall be stored and handled per manufacturer's recommendations.
  2. Lifted by crane requires either shipping top panel or spreader bars.
  3. Unit shall only be stored or positioned in the upright position.
- D. (23 81 19.13.D.) Project Conditions:
1. As specified in the contract.

E. (23 81 19.13.E.) Operating Characteristics:

1. Unit shall be capable of starting and running at 125°F (52°C) ambient outdoor temperature, meeting maximum load criteria of AHRI Standard 210/240 at ±10% voltage.
2. Compressor with standard controls shall be capable of operation down to 0°F (-17°C), ambient outdoor temperatures).
3. Unit shall discharge supply air vertically or horizontally as shown on contract drawings.
4. Unit shall be factory configured for vertical supply and return configurations.
5. Unit shall be field convertible from vertical to horizontal airflow on all models. No special kit required.
6. Unit shall be capable of mixed operation: vertical supply with horizontal return or horizontal supply with vertical return.

F. (23 81 19.13.F.) Electrical Requirements:

1. Main power supply voltage, phase, and frequency must match those required by the manufacturer.

G. (23 81 19.13.G.) Unit Cabinet:

1. Unit cabinet shall be constructed of galvanized steel, and shall be bonderized and coated with a prepainted baked enamel finish on all externally exposed surfaces.
2. Unit cabinet exterior paint shall be: film thickness, (dry) 0.003-in. minimum, gloss (per ASTM D523, 60°F/16°C): 60, Hardness: H-2H Pencil hardness.
3. Evaporator fan compartment interior cabinet insulation shall conform to AHRI Standards 210/240 minimum exterior sweat criteria. Interior surfaces shall be insulated with a minimum 1/2-in. thick, 1 lb density, flexible fiberglass insulation, neoprene coated on the air side. Aluminum foil-faced fiberglass insulation shall be used in the gas heat compartment.
4. Base of unit shall have a minimum of four locations for thru-the-base gas and electrical connections (factory-installed or field-installed), standard.
5. Base Rail:
  - a. Unit shall have base rails on a minimum of 2 sides.
  - b. Holes shall be provided in the base rails for rigging shackles to facilitate maneuvering and overhead rigging.
  - c. Holes shall be provided in the base rail for moving the rooftop by fork truck.
  - d. Base rail shall be a minimum of 16 gage thickness.
6. Condensate pan and connections:
  - a. Shall be a sloped condensate drain pan made of a corrosion resistant material.

- b. Shall comply with ASHRAE Standard 62.
  - c. Shall use a 3/4-in. 14 NPT drain connection, possible either through the bottom or side of the drain pan. Connection shall be made per manufacturer's recommendations.
7. Top panel:
- a. Shall be a single piece top panel on all sizes.
8. Gas Connections:
- a. All gas piping connecting to unit gas valve shall enter the unit cabinet at a single location on side of unit (horizontal plane).
  - b. Thru-the-base capability
    - 1) Standard unit shall have a thru-the-base gas-line location using a raised, embossed portion of the unit basepan.
    - 2) Optional, factory approved, water-tight connection method must be used for thru-the-base gas connections.
    - 3) No basepan penetration, other than those authorized by the manufacturer, is permitted.
9. Electrical Connections:
- a. All unit power wiring shall enter unit cabinet at a single, factory prepared, knockout location.
  - b. Thru-the-base capability:
    - 1) Standard unit shall have a thru-the-base electrical location(s) using a raised, embossed portion of the unit basepan.
    - 2) Optional, factory approved, water-tight connection method must be used for thru-the-base electrical connections.
    - 3) No basepan penetration, other than those authorized by the manufacturer, is permitted.
10. Component access panels (standard):
- a. Cabinet panels shall be easily removable for servicing.
  - b. Unit shall have one factory installed, tool-less, removable, filter access panel.
  - c. Panels covering control box, indoor fan, indoor fan motor, gas components (where applicable), and compressors shall have molded composite handles.
  - d. Handles shall be UV modified, composite. They shall be permanently attached, and recessed into the panel.
  - e. Screws on the vertical portion of all removable access panel shall engage into heat resistant, molded composite collars.
  - f. Collars shall be removable and easily replaceable using manufacturer recommended parts.
- H. (23 81 19.13.H.) Gas Heat:
1. General:
- a. Heat exchanger shall be an induced draft design. Positive pressure heat exchanger designs shall not be allowed.
  - b. Shall incorporate a direct-spark ignition system and redundant main gas valve.
  - c. Gas supply pressure at the inlet to the rooftop unit gas valve must match that required by the manufacturer.
2. The heat exchanger shall be controlled by an integrated gas controller (IGC) microprocessor.
- a. IGC board shall notify users of fault using an LED (light-emitting diode).
  - b. The LED shall be visible without removing the control box access panel.
  - c. IGC board shall contain algorithms that modify evaporator fan operation to prevent future cycling on high temperature limit switch.
  - d. Unit shall be equipped with anti-cycle protection with one short cycle on unit flame rollout switch or 4 continuous short cycles on the high temperature limit switch. Fault indication shall be made using an LED.
3. Standard Heat Exchanger construction:
- a. Heat exchanger shall be of the tubular-section type constructed of a minimum of 20-gage steel coated with a nominal 1.2 mil aluminum-silicone alloy for corrosion resistance.
  - b. Burners shall be of the in-shot type constructed of aluminum-coated steel.
  - c. Burners shall incorporate orifices for rated heat output up to 2000 ft (610 m) elevation. Additional accessory kits may be required for applications above 2000 ft (610 m) elevation, depending on local gas supply conditions.
  - d. Each heat exchanger tube shall contain multiple dimples for increased heating effectiveness.
4. Optional Stainless Steel Heat Exchanger construction:
- a. Use energy saving, direct-spark ignition system.
  - b. Use a redundant main gas valve.
  - c. Burners shall be of the in-shot type constructed of aluminum-coated steel.
  - d. All gas piping shall enter the unit cabinet at a single location on side of unit (horizontal plane).
  - e. The optional stainless steel heat exchanger shall be of the tubular-section type, constructed of a minimum of 20-gage type 409 stainless steel.
  - f. Type 409 stainless steel shall be used in heat exchanger tubes and vestibule plate.
  - g. Complete stainless steel heat exchanger allows for greater application flexibility.

5. Optional Low NO<sub>x</sub> Heat Exchanger construction:
  - a. Low NO<sub>x</sub> reduction shall be provided to reduce nitrous oxide emissions to meet California's Air Quality Management District (SCAQMD) low-NO<sub>x</sub> emissions requirement of 14 nanograms per joule or less.
  - b. Primary tubes and vestibule plates on low NO<sub>x</sub> units shall be 409 stainless steel. Other components shall be aluminized steel.
6. Induced draft combustion motor and blower:
  - a. Shall be a direct-drive, single inlet, forward-curved centrifugal type.
  - b. Shall be made from steel with a corrosion resistant finish.
  - c. Shall have permanently lubricated sealed bearings.
  - d. Shall have inherent thermal overload protection.
  - e. Shall have an automatic reset feature.
- I. (23 81 19.13.I.) Coils:
  1. Standard Aluminum Fin-Copper Tube Coils:
    - a. Standard evaporator and condenser coils shall have aluminum lanced plate fins mechanically bonded to seamless internally grooved copper tubes with all joints brazed.
    - b. Evaporator coils shall be leak tested to 150 psig, pressure tested to 450 psig, and qualified to UL 1995 burst test at 1775 psig.
    - c. Condenser coils shall be leak tested to 150 psig, pressure tested to 650 psig, and qualified to UL 1995 burst test at 1980 psig.
  2. Optional Pre-coated aluminum-fin condenser coils:
    - a. Shall have a durable epoxy-phenolic coating to provide protection in mildly corrosive coastal environments.
    - b. Coating shall be applied to the aluminum fin stock prior to the fin stamping process to create an inert barrier between the aluminum fin and copper tube.
    - c. Epoxy-phenolic barrier shall minimize galvanic action between dissimilar metals.
    - d. Corrosion durability of fin stock shall be confirmed through testing to be no less than 1000 hours salt spray per ASTM B117-90.
    - e. Corrosion durability of fin stock shall be confirmed through testing to have no visible corrosion after 48 hour immersion in a room temperature solution of 5% salt, 1% acetic acid.
    - f. Fin stock coating shall pass 2000 hours of the following: one week exposure in the prohesion chamber followed by one week of accelerated ultraviolet light testing. Prohesion chamber: the solution shall contain 3.5% sodium chloride and 0.35% ammonium sulfate. The exposure cycle is one hour of salt fog application at ambient followed by one hour drying at 95°F (35°C).
3. Optional Copper-fin evaporator and condenser coils:
  - a. Shall be constructed of copper fins mechanically bonded to copper tubes and copper tube sheets.
  - b. Galvanized steel tube sheets shall not be acceptable.
  - c. A polymer strip shall prevent coil assembly from contacting the sheet metal coil pan to minimize potential for galvanic corrosion between coil and pan.
4. Optional E-coated aluminum-fin evaporator and condenser coils:
  - a. Shall have a flexible epoxy polymer coating uniformly applied to all coil surface areas without material bridging between fins.
  - b. Coating process shall ensure complete coil encapsulation of tubes, fins and headers.
  - c. Color shall be high gloss black with gloss per ASTM D523-89.
  - d. Uniform dry film thickness from 0.8 to 1.2 mil on all surface areas including fin edges.
  - e. Superior hardness characteristics of 2H per ASTM D3363-92A and cross-hatch adhesion of 4B-5B per ASTM D3359-93.
  - f. Impact resistance shall be up to 160 in.-lb (ASTM D2794-93).
  - g. Humidity and water immersion resistance shall be up to minimum 1000 and 250 hours respectively (ASTM D2247-92 and ASTM D870-92).
  - h. Corrosion durability shall be confirmed through testing to be no less than 1000 hours salt spray per ASTM B117-90.
- J. (23 81 19.13.J.) Refrigerant Components:
  1. Refrigerant circuit shall include the following control, safety, and maintenance features:
    - a. TXV metering system on all models shall include a multiple feed distribution system that optimizes coil performance.
    - b. Refrigerant filter drier - Solid core design.
    - c. Service gage connections on suction and discharge lines.
    - d. Pressure gage access through a specially designed access port in the top panel of the unit.
  2. There shall be gage line access port in the skin of the rooftop, covered by a black, removable plug.
    - a. The plug shall be easy to remove and replace.



- b. When the plug is removed, the gage access port shall enable maintenance personnel to route their pressure gage lines.
  - c. This gage access port shall facilitate correct and accurate condenser pressure readings by enabling the reading with the compressor access panel on.
  - d. The plug shall be made of a leak proof, UV-resistant, composite material.
3. Compressors:
- a. Unit shall use fully hermetic, reliable variable capacity compressor with DC inverter control on all sizes with:
    - 1) Two LEDs (red and green) indicate inverter operating status and aid in troubleshooting.
    - 2) Noise filter reduces unwanted electromagnetic interference (EMI).
    - 3) Inverter reactor adds inductance to the line between the inverter and the compressor to limit current rise and protect the compressor.
  - b. Compressor motors shall be cooled by refrigerant gas passing through motor windings.
  - c. Compressors shall be internally protected from high discharge temperature conditions.
  - d. Compressors shall be protected from an over-temperature and over-ampereage conditions by an internal, motor overload device.
  - e. Compressor shall be factory mounted on rubber grommets.
  - f. Compressor motors shall have internal line break thermal, current overload and high pressure differential protection.
  - g. Crankcase heaters shall not be required for normal operating range, unless required by compressor manufacturer due to refrigerant charge limits.
- K. (23 81 19.13.K.) Filter Section:
- 1. Filters access is specified in the unit cabinet section of this specification.
  - 2. Filters shall be held in place by a pivoting filter tray, facilitating easy removal and installation.
  - 3. Shall consist of factory installed, low velocity, throw-away 2-in. thick fiberglass filters.
  - 4. Filters shall be standard, commercially available sizes.
  - 5. Only one size filter per unit is allowed.
- L. (23 81 19.13.L.) Evaporator Fan and Motor with EcoBlue™ Technology:
- 1. Direct Drive Evaporator fan motor:
    - a. Shall be a ECM motor design.
    - b. Shall have permanently lubricated bearings.
  - c. Shall have inherent automatic-reset thermal overload protection.
  - d. Shall have slow ramp up to speed capabilities.
  - e. Shall require no fan/motor belts for operation, adjustments and or initial fan speed set up.
  - f. Fan set up on the SystemVu™ controller can eliminate the need of removal of blower access door, required on conventional belt drive systems.
  - g. Shall be internally protected from electrical phase reversal and loss.
  - h. Shall be a slide out design for easy maintenance and service.
2. Evaporator Fan:
- a. Shall be easily set through the SystemVu™ controller.
  - b. Blower fan shall be a Vane Axial fan design with 75% less moving parts than a conventional belt drive system.
  - c. Shall be constructed of a cast aluminum stator and high impact composite material on rotor and air inlet casing.
  - d. Shall be a patented / pending design with a corrosion resistant material and dynamically balanced.
  - e. Shall have slow ramp up to speed capabilities to help reduce sound and comfort issues typically associated with single speed belt drive systems.
  - f. Shall be a slide out design with two screw removal.
- M. (23 81 19.13.M.) Condenser Fans and Motors:
- 1. Condenser fan motors:
    - a. Shall be a totally enclosed motor.
    - b. Shall use permanently lubricated ball bearings.
    - c. Shall have inherent thermal overload protection with an automatic reset feature.
    - d. Shall use a shaft-down design on all sizes.
    - e. Shall be variable speed design and controlled by base unit SystemVu™ controller.
  - 2. Condenser Fans:
    - a. Shall be a direct-driven propeller type fan constructed of high impact composite material.
    - b. Shall have high impact composite blades completely formed into one piece without blade fasteners or connectors and shall be dynamically balanced.
- N. (23 81 19.13.N.) Special Features Options and Accessories:
- 1. Integrated EconoMi\$er®2 low leak rate model.
    - a. Integrated, gear driven opposing modulating blade design type capable of simultaneous economizer and compressor operation.

- b. Independent modules for vertical or horizontal return configuration shall be available. Vertical return modules shall be available as a factory installed option.
  - c. Damper blades shall be galvanized steel with composite gears. Plastic or composite blades on intake or return shall not be acceptable.
  - d. Shall include all hardware and controls to provide free cooling with outdoor air when temperature and/or humidity are below setpoints.
  - e. Shall be equipped with gear driven dampers for both the outdoor ventilation air and the return air for positive air stream control.
  - f. Standard leak rate shall be equipped with dampers not to exceed 2% leakage at 1 in. wg pressure differential.
  - g. Economizer controller on EconoMi\$er 2 models with SystemVu controller shall be a 4 to 20mA design controlled directly by the controller. SystemVu controller meets California Title 24, ASHRAE 90.1 and IECC Fault Detection and Diagnostic (FDD) requirements.
  - h. Shall be capable of introducing up to 100% outdoor air.
  - i. Shall be equipped with a barometric relief damper capable of relieving up to 100% return air and contain seals that meet ASHRAE 90.1 requirements.
  - j. Shall be designed to close damper(s) during loss-of-power situations with spring return built into motor.
  - k. Dry bulb outdoor air temperature sensor shall be provided as standard. Enthalpy sensor is also available on factory-installed economizers only. Outdoor air sensor setpoint shall be adjustable and shall range from 40°F to 100°F (4°C to 38°C). Additional sensor options shall be available as accessories.
  - l. The economizer controller shall also provide control of an accessory power exhaust unit function. Factory set at 100%, with a range of 0% to 100%.
  - m. The economizer shall maintain minimum airflow into the building during occupied period and provide design ventilation rate for full occupancy.
  - n. Dampers shall be completely closed when the unit is in the unoccupied mode.
  - o. Economizer controller shall accept a 2 to 10 Vdc CO<sub>2</sub> sensor input for IAQ/DCV control. In this mode, dampers shall modulate the outdoor air damper to provide ventilation based on the sensor input.
  - p. Compressor lockout temperature on W7220 control is adjustable from -45°F to 80°F (-43°C to 27°C), set at a factory default of 32°F (0°C).
- W7212 control opens at 35°F (2°C) and closes at 50°F (10°C).
- q. Actuator shall be direct coupled to economizer gear. No linkage arms or control rods shall be acceptable.
  - r. Economizer controller shall provide indications when in free cooling mode, in the DCV mode, or the exhaust fan contact is closed.
2. Integrated EconoMi\$er®2 Ultra Low Leak rate model.
    - a. Integrated, gear driven opposing modulating blade design type capable of simultaneous economizer and compressor operation.
    - b. Independent modules for vertical or horizontal return configuration shall be available. Vertical return modules shall be available as a factory installed option.
    - c. Damper blades shall be galvanized steel with composite gears. Plastic or composite blades on intake or return shall not be acceptable.
    - d. Shall include all hardware and controls to provide free cooling with outdoor air when temperature and/or humidity are below setpoints.
    - e. Shall be equipped with gear driven dampers for both the outdoor ventilation air and the return air for positive air stream control.
    - f. Ultra Low Leak design meets California Title 24 section 140.4 and ASHRAE 90.1 requirements for 4 cfm per sq. ft. on the outside air dampers and 10 cfm per sq. ft. on the return dampers.
    - g. Economizer controller on EconoMi\$er 2 models with SystemVu™ controller shall be a 4-20mA design controlled directly by the controller. SystemVu controller meets California Title 24, ASHRAE 90.1 and IECC Fault Detection and Diagnostic (FDD) requirements.
    - h. Shall be capable of introducing up to 100% outdoor air.
    - i. Shall be equipped with a barometric relief damper capable of relieving up to 100% return air and contain seals that meet ASHRAE 90.1 requirements.
    - j. Shall be designed to close damper(s) during loss-of-power situations with spring return built into motor.
    - k. Dry bulb outdoor air temperature sensor shall be provided as standard. Enthalpy sensor is also available on factory-installed economizers only. Outdoor air sensor setpoint shall be adjustable and shall range from 40°F to 100° F (4°C to 38°C). Additional sensor options shall be available as accessories.
    - l. The economizer controller shall also provide control of an accessory power exhaust unit function. Factory set at 100%, with a range of 0% to 100%.

- m. The economizer shall maintain minimum air-flow into the building during occupied period and provide design ventilation rate for full occupancy.
  - n. Dampers shall be completely closed when the unit is in the unoccupied mode.
  - o. Economizer controller shall accept a 2 to 10 vdc CO<sub>2</sub> sensor input for IAQ/DCV control. In this mode, dampers shall modulate the outdoor air damper to provide ventilation based on the sensor input.
  - p. Compressor lockout temperature on W7220 control is adjustable from -45°F to 80°F, set at a factory default of 32°F. W7212 control opens at 35°F (2°C) and closes at 50°F (10°C).
  - q. Actuator shall be direct coupled to economizer gear. No linkage arms or control rods shall be acceptable.
  - r. Economizer controller shall provide indications when in free cooling mode, in the DCV mode, or the exhaust fan contact is closed.
3. Humidi-MiZer® Adaptive Dehumidification System:
- a. The Humidi-MiZer Adaptive Dehumidification System shall be factory installed and shall provide greater dehumidification of the occupied space by two modes of dehumidification operations in addition to its normal design cooling mode:
    - 1) Subcooling mode further sub cools the hot liquid refrigerant leaving the condenser coil when both temperature and humidity in the space are not satisfied.
    - 2) Hot gas reheat mode shall mix a portion of the hot gas from the discharge of the compressor with the hot liquid refrigerant leaving the condenser coil to create a two-phase heat transfer in the system, resulting in a neutral leaving air temperature when only humidity in the space is not satisfied.
4. Propane Conversion Kit:
- a. Package shall contain all the necessary hardware and instructions to convert a standard natural gas unit for use with liquefied propane, up to 2000 ft (610 m) elevation.
  - b. Additional accessory kits may be required for applications above 2000 ft (610 m) elevation.
5. Flue Shield:
- a. Flue shield shall provide protection from the hot sides of the gas flue hood.
6. Condenser Coil Hail Guard Assembly:
- a. Shall protect against damage from hail.
  - b. Shall be either hood style or louvered.
7. Unit-Mounted, Non-Fused Disconnect Switch (Available on units with MOCPs of 80 amps or less):
- a. Switch shall be factory installed, internally mounted.
  - b. National Electric Code (NEC) and UL approved non-fused switch shall provide unit power shutoff.
  - c. Shall be accessible from outside the unit.
  - d. Shall provide local shutdown and lockout capability.
  - e. Sized only for the unit as ordered from the factory. Does not accommodate field-installed devices.
8. HACR Breaker:
- a. These manual reset devices provide overload and short circuit protection for the unit. Factory wired and mounted with the units, with access cover to help provide environmental protection. On 575V applications, HACR breaker can only be used with WYE power distribution systems. Use on Delta power distribution systems is prohibited.
  - b. Sized only for the unit as ordered from the factory. Does not accommodate field-installed devices.
9. Convenience Outlet:
- a. Powered convenience outlet.  
Outlet shall be powered from main line power to the rooftop unit.
    - 1) Outlet shall be powered from line side or load side of disconnect by installing contractor, as required by code. If outlet is powered from load side of disconnect, unit electrical ratings shall be UL certified and rated for additional outlet amperage.
    - 2) Outlet shall be factory-installed and internally mounted with easily accessible 115-v female receptacle.
    - 3) Outlet shall include 15 amp GFI receptacles with independent fuse protection.
    - 4) Voltage required to operate convenience outlet shall be provided by a factory installed step-down transformer.
    - 5) Outlet shall be accessible from outside the unit.
    - 6) Outlet shall include a field installed "Wet in Use" cover.
  - b. Factory-Installed Non-Powered convenience outlet.
    - 1) Outlet shall be powered from a separate 115/120v power source.
    - 2) A transformer shall not be included.
    - 3) Outlet shall be factory-installed and internally mounted with easily accessible 115-v female receptacle.
    - 4) Outlet shall include 15 amp GFI receptacles with independent fuse protection.

- 5) Outlet shall be accessible from outside the unit.
- 6) Outlet shall include a field installed “Wet in Use” cover.
- c. Field-Installed Non-Powered convenience outlet.
  - 1) Outlet shall be powered from a separate 115/120v power source.
  - 2) A transformer shall not be included.
  - 3) Outlet shall be field-installed and internally mounted with easily accessible 115-v female receptacle.
  - 4) Outlet shall include 20 amp GFI receptacles. This kit provides a flexible installation method which allows code compliance for height requirements of the GFCI outlet from the finished roof surface as well as the capability to relocate the outlet to a more convenient location.
  - 5) Outlet shall be accessible from outside the unit.
  - 6) Outlet shall include a field installed “Wet in Use” cover.
10. Flue Discharge Deflector:
  - a. Flue discharge deflector shall direct unit exhaust vertically instead of horizontally.
  - b. Deflector shall be defined as a “natural draft” device by the National Fuel and Gas (NFG) code.
11. Thru-the-Base Connectors:
  - a. Kits shall provide connectors to permit gas and electrical connections to be brought to the unit through the unit basepan.
  - b. Minimum of four connection locations per unit.
12. Propeller Power Exhaust:
  - a. Power exhaust shall be used in conjunction with an integrated economizer.
  - b. Independent modules for vertical or horizontal return configurations shall be available.
  - c. Horizontal power exhaust is shall be mounted in return ductwork.
  - d. Power exhaust shall be controlled by economizer controller operation. Exhaust fans shall be energized when dampers open past the 0 to 100% adjustable setpoint on the economizer control.
13. Roof Curbs (Vertical):
  - a. Full perimeter roof curb with exhaust capability providing separate air streams for energy recovery from the exhaust air without supply air contamination.
  - b. Formed galvanized steel with wood nailer strip and shall be capable of supporting entire unit weight.
- c. Permits installation and securing of ductwork to curb prior to mounting unit on the curb.
14. High Altitude Gas Conversion Kit:
  - a. Package shall contain all the necessary hardware and instructions to convert a standard natural gas unit to operate from 2000 to 7000 ft (610 to 2134 m) elevation with natural gas or from 0 to 7000 ft (0 to 2134 m) elevation with liquefied propane.
15. Outdoor Air Enthalpy Sensor:
  - a. The outdoor air enthalpy sensor shall be used to provide single enthalpy control. When used in conjunction with a return air enthalpy sensor, the unit will provide differential enthalpy control. The sensor allows the unit to determine if outside air is suitable for free cooling.
16. Return Air Enthalpy Sensor:
  - a. The return air enthalpy sensor shall be used in conjunction with an outdoor air enthalpy sensor to provide differential enthalpy control.
17. Indoor Air Quality (CO<sub>2</sub>) Sensor:
  - a. Shall be able to provide demand ventilation indoor air quality (IAQ) control.
  - b. The IAQ sensor shall be available in duct mount, wall mount, or wall mount with LED display. The setpoint shall have adjustment capability.
18. Smoke detectors (factory-installed only):
  - a. Shall be a four-wire controller and detector.
  - b. Shall be environmental compensated with differential sensing for reliable, stable, and drift-free sensitivity.
  - c. Shall use magnet-activated test/reset sensor switches.
  - d. Shall have tool-less connection terminal access.
  - e. Shall have a recessed momentary switch for testing and resetting the detector.
  - f. Controller shall include:
    - 1) One set of normally open alarm initiation contacts for connection to an initiating device circuit on a fire alarm control panel.
    - 2) Two Form-C auxiliary alarm relays for interface with rooftop unit or other equipment.
    - 3) One Form-C supervision (trouble) relay to control the operation of the Trouble LED on a remote test/reset station.
    - 4) Capable of direct connection to two individual detector modules.
    - 5) Can be wired to up to 14 other duct smoke detectors for multiple fan shut-down applications.

19. Hinged Access Panels:
  - a. Shall provide easy access through integrated quarter turn latches.
  - b. Shall be on major panels of: filter, control box, fan motor, and compressor.
20. Condensate overflow switch:
  - a. This sensor and related controller monitors the condensate level in the drain pan and shuts down compression operation when overflow conditions occur. It includes:
    - 1) Indicator light — solid red (more than 10 seconds on water contact – compressors disabled), blinking red (sensor disconnected).
    - 2) 10 second delay to break — eliminates nuisance trips from splashing or waves in pan (sensor needs 10 seconds of constant water contact before tripping).
    - 3) Disables the compressor(s) operation when condensate plug is detected, but still allows fans to run for economizer.
21. Foil Faced Insulation:
  - a. Throughout unit cabinet air stream, non-fibrous and cleanable foil faced insulation is used.
22. MERV-8 Return Air filters:
  - a. Factory option to upgrade standard unit filters to MERV-8 filters.
23. Phase Monitor Control:
  - a. Shall monitor the sequence of three phase electrical system to provide a phase reversal protection.
  - b. Shall monitor the three phase voltage inputs to provide a phase loss protection for the three phase device.
  - c. Will work on either a Delta or Wye power connection.
24. Horn/Strobe Annunciator:
  - a. Provides an audible/visual signaling device for use with factory-installed option or field installed accessory smoke detectors.
    - 1) Requires installation of a field-supplied 24-v transformer suitable for 4.2 VA (AC) or 3.0 VA (DC) per horn/strobe accessory.
    - 2) Requires field-supplied electrical box, North American 1-gang box, 2-in. (51 mm) x 4-in. (102 mm).
    - 3) Shall have a clear colored lens.

Note about this specification:

This specification is in the “Masterformat” as published by the Construction Specification Institute. Please feel free to copy this specification directly into your building spec.



## Ultra High Efficiency Cooling Only/Electric Heat Packaged Rooftop

### HVAC Guide Specifications

Size Range: **3 to 5 Nominal Tons**

Carrier Model Number: **50JC\*04-06**

### Part 1 — (23 06 80) Schedules for Decentralized HVAC Equipment

1.01 (23 06 80.13) Decentralized Unitary HVAC Equipment Schedule:

- A. (23 06 80.13.A.) Rooftop unit (RTU) schedule:
1. Schedule is per the project specification requirements.

### Part 2 — (23 07 16) HVAC equipment insulation

2.01 (23 07 16.13) Decentralized, Rooftop Units:

- A. (23 07 16.13.A.) Evaporator fan compartment:
1. Interior cabinet surfaces shall be insulated with a minimum 1/2-in. thick, minimum 1 1/2 lb density, flexible fiberglass insulation bonded with a phenolic binder, neoprene coated on the air side.
  2. Insulation and adhesive shall meet NFPA 90A requirements for flame spread and smoke generation.
- B. (23 07 16.13.B.) Electric Heat Compartment:
1. Aluminum foil-faced fiberglass insulation shall be used.
  2. Insulation and adhesive shall meet NFPA 90A requirements for flame spread and smoke generation.

### Part 3 — (23 09 13) Instrumentation and control devices for HVAC

3.01 (23 09 13.23) Sensors and Transmitters:

- A. (23 09 13.23.A.) Thermostats:
1. Thermostat must
    - a. energize both “W” and “G” when calling for heat.
    - b. have capability to energize up to 2 stages of cooling, and 2 different stages of heating.
    - c. include capability for occupancy scheduling.

### Part 4 — (23 09 23) Direct Digital Control system for HVAC

4.01 (23 09 23.13) Decentralized, Rooftop Units:

- A. (23 09 23.13.A.) SystemVu™ intelligent integrated unit controller with Direct Digital Control (DDC) capability:
1. Integrated unit operation for comfort cooling, heating ventilation as well as all monitoring,

recording and reporting capabilities. Controller shall also provide diagnostics and alarms of abnormal unit operation through the controller. Controller shall have an intuitive user display and be able to be used in a standalone operation or via building automation system (BAS).

2. Quick Unit Status LEDs of: Run – meaning all systems are go, ALERT – that indicates there is currently a non-critical issue with the unit, like filters need to be replaced and FAULT – that indicates the unit has a critical issue and will possibly shut down.
3. Six large navigation keys for easy access. Navigation keys shall consist of: TEST, BACK, ENTER, and MENU along with UP and DOWN arrows.
4. Full back lit user display with 4 line by 30 character text capabilities. Display menu shall be designed to provide guided major menus and sub menus main menus provided below:
  - a. Shutdown Unit
  - b. Run Status
  - c. Settings
  - d. Alerts/Faults
  - e. Service
  - f. Inputs
  - g. Outputs
  - h. USB
5. The capability for standalone operation with conventional thermostat/sensor or use with building automation systems (BAS) of Carrier i-Vu®, BACnet and Carrier Comfort Network® (CCN) systems. No special modules or boards are required for these capabilities. Has the capability to work with Equipment Touch™ and System Touch™ devices and ZS Sensors.
6. The ability to read refrigerant pressures at display or via BAS network of; Discharge Pressure and Suction Pressure. The need for traditional refrigerant gages is not required.
7. USB Data Port for flash drive interaction. This will allow the transfer of data for uploads, downloads, perform software upgrades, back-up and restore data and file transfer data such as component number of starts and run hours.
8. Reverse Rotation Protection of compressors if field three phase wiring is misapplied.
9. Provide Service Capabilities of:
  - a. Auto run test
  - b. Manual run test
  - c. Component run hours and starts
  - d. Commissioning reports
  - e. Data logging
  - f. Alarm history

10. Economizer control and diagnostics. Set up economizer operation, receive feedback from actuator. Also meets the most recent California Title 24, ASHRAE 90.1 and IECC Fault Detection and Diagnostic (FDD) requirements.
11. Unit cooling operation down to 0°F (-17°C).
12. Controller shall have easy access connections around the controller perimeter area and consist of Mate-N-Lok<sup>1</sup>, terminal block and RJ style modular jack connections.
13. 365 day real time clock, 20 holiday schedules along with occupied and unoccupied scheduling.
14. Auto-Recognition for easy installation and commissioning of devices like economizers, space sensors etc.
15. A 5°F temperature difference between cooling and heating set points to meet the latest ASHRAE 90.1 Energy Standard.
16. Contain return air sensor, supply air sensor and outdoor air sensor to help monitor and provide data for the unit comfort operation, diagnostic and alarms.
17. Use of Carrier's field accessory hand-held Navigator™ display, Equipment Touch and System Touch devices.
18. Units with the factory-installed Humidi-MiZer® system option are capable of providing multiple modes of improved dehumidification as a variation of the normal cooling cycle.
19. Supply Air Tempering control operates the gas or electric heat to maintain a minimum supply air temperature during conditions where very cold outdoor air causes the supply air temperature to fall below the configured Supply Air Tempering Setpoint. This occurs during periods where DCV is active and increasing the amount of outdoor air or in cases where the system is operating at very low airflow and the calculated economizer position has increased to maintain a constant ventilation rate.
20. Demand limiting in SystemVu™ is achieved through set point expansion. The systems heating and cooling set points are expanded in steps or levels. The degree to which the set points may be expanded is defined by the 6 demand level offsets and the 2 commanded demand limit levels.
21. 3-year limited part warranty.

### **Part 5 — (23 09 33) Electric and Electronic Control System for HVAC**

#### 5.01 (23 09 33.13) Decentralized, Rooftop Units:

- A. (23 09 33.13.A.) General:
  1. Shall be complete with self-contained low-voltage control circuit protected by a resettable circuit breaker on the 24-v transformer side.

Unit shall have multiple transformers with 75VA capability.

2. Shall utilize color-coded wiring.
3. Unit shall include a minimum of one 8-pin screw terminal connection board for connection of control wiring.

#### B. (23 09 33.13.B.) Safeties:

1. Compressor over-temperature, over-current. High internal pressure differential.
2. Low pressure switch.
  - a. Low pressure switch shall use different color wire than the high pressure switch. The purpose is to assist the installer and service technician to correctly wire and or troubleshoot the rooftop unit.
3. High pressure switch.
  - a. High pressure switch shall use different color wire than the low pressure switch. The purpose is to assist the installer and service technician to correctly wire and or troubleshoot the rooftop unit.
4. Automatic reset, motor thermal overload protector.

### **Part 6 — (23 09 93) Sequence of Operations for HVAC Controls**

#### 6.01 (23 09 93.13) Decentralized, Rooftop Units:

- A. (23 09 93.13.A.) INSERT SEQUENCE OF OPERATION

### **Part 7 — (23 40 13) Panel Air Filters**

#### 7.01 (23 40 13.13) Decentralized, Rooftop Units:

- A. (23 40 13.13.A.) Standard filter section:
  1. Shall consist of factory installed, low velocity, disposable 2-in. thick fiberglass filters of commercially available sizes.
  2. Unit shall use only one filter size. Multiple sizes are not acceptable.
  3. Filters shall be accessible through an access panel with "no-tool" removal as described in the unit cabinet section of this specification (23 81 19.13.G).

### **Part 8 — (23 81 19) Self-Contained Air Conditioners**

#### 8.01 (23 81 19.13) Small-Capacity Self-Contained Air Conditioners:

- A. (23 81 19.13.A.) General:
  1. Outdoor, rooftop mounted, electrically controlled, heating and cooling unit utilizing a fully hermetic scroll compressor(s) for cooling duty and optional electric heat for heating duty.
  2. Factory assembled, single-piece heating and cooling rooftop unit. Contained within the unit enclosure shall be all factory wiring, piping, controls, and special features required prior to field start-up.
  3. Unit shall use Puron® (R-410A) refrigerant.

1. Mate-N-Lok is a registered trademark of the Whitaker Corporation.

4. Unit shall be installed in accordance with the manufacturer's instructions.
  5. Unit must be selected and installed in compliance with local, state, and federal codes.
- B. (23 81 19.13.B.) Quality Assurance:
1. Unit meets and exceeds ASHRAE 90.1 minimum efficiency requirements.
  2. Unit shall be rated in accordance with AHRI Standards 210/240.
  3. Unit shall be designed to conform to ASHRAE 15.
  4. Unit shall be UL-tested and certified in accordance with ANSI Z21.47 Standards and UL-listed and certified under Canadian standards as a total package for safety requirements.
  5. Insulation and adhesive shall meet NFPA 90A requirements for flame spread and smoke generation.
  6. Unit casing shall be capable of withstanding 500 hour salt spray exposure per ASTM B117 (scribed specimen).
  7. Unit shall be designed in accordance with ISO 9001, and shall be manufactured in a facility registered by ISO 9001:2015.
  8. Roof curb shall be designed to conform to NRCA Standards.
  9. Unit shall be subjected to a completely automated run test on the assembly line. The data for each unit will be stored at the factory, and must be available upon request.
  10. Unit shall be designed in accordance with UL Standard 1995, including tested to withstand rain.
  11. Unit shall be constructed to prevent intrusion of snow and tested to prevent snow intrusion into the control box up to 40 mph.
  12. Unit shake tested to assurance level 1, ASTM D4169 to ensure shipping reliability.
- C. (23 81 19.13.C.) Delivery, Storage, and Handling:
1. Unit shall be stored and handled per manufacturer's recommendations.
  2. Lifted by crane requires either shipping top panel or spreader bars.
  3. Unit shall only be stored or positioned in the upright position.
- D. (23 81 19.13.D.) Project Conditions:
1. As specified in the contract.
- E. (23 81 19.13.E.) Operating Characteristics:
1. Unit shall be capable of starting and running at 125°F (52°C) ambient outdoor temperature, meeting maximum load criteria of AHRI Standard 210/240 at ±10% voltage.
  2. Compressor with standard controls shall be capable of operation down to 0°F (-17°C), ambient outdoor temperatures.
3. Unit shall discharge supply air vertically or horizontally as shown on contract drawings.
  4. Unit shall be factory configured for vertical supply and return configurations.
  5. Unit shall be field convertible from vertical to horizontal airflow on all models. No special kit required.
  6. Unit shall be capable of mixed operation: vertical supply with horizontal return or horizontal supply with vertical return.
- F. (23 81 19.13.F.) Electrical Requirements:
1. Main power supply voltage, phase, and frequency must match those required by the manufacturer.
- G. (23 81 19.13.G.) Unit Cabinet:
1. Unit cabinet shall be constructed of galvanized steel, and shall be bonderized and coated with a pre-painted baked enamel finish on all externally exposed surfaces.
  2. Unit cabinet exterior paint shall be: film thickness, (dry) 0.003-in. minimum, gloss (per ASTM D523, 60°F/16°C): 60, Hardness: H-2H Pencil hardness.
  3. Evaporator fan compartment interior cabinet insulation shall conform to AHRI Standards 210/240 minimum exterior sweat criteria. Interior surfaces shall be insulated with a minimum 1/2-in. thick, 1 lb density, flexible fiberglass insulation, neoprene coated on the air side. Aluminum foil-faced fiberglass insulation shall be used in the heat compartment.
  4. Base of unit shall have a minimum of four locations for thru-the-base gas and electrical connections (factory-installed or field-installed), standard.
  5. Base Rail:
    - a. Unit shall have base rails on a minimum of 2 sides.
    - b. Holes shall be provided in the base rails for rigging shackles to facilitate maneuvering and overhead rigging.
    - c. Holes shall be provided in the base rail for moving the rooftop by fork truck.
    - d. Base rail shall be a minimum of 16 gage thickness.
  6. Condensate pan and connections:
    - a. Shall be a sloped condensate drain pan made of a corrosion resistant material.
    - b. Shall comply with ASHRAE Standard 62.
    - c. Shall use a 3/4-in. 14 NPT drain connection, possible either through the bottom or side of the drain pan. Connection shall be made per manufacturer's recommendations.
  7. Top panel:
    - a. Shall be a single piece top panel on all sizes.



8. Electrical Connections:
  - a. All unit power wiring shall enter unit cabinet at a single, factory prepared, knockout location.
  - b. Thru-the-base capability.
    - 1) Standard unit shall have a thru-the-base electrical location(s) using a raised, embossed portion of the unit basepan.
    - 2) Optional, factory approved, water-tight connection method must be used for thru-the-base electrical connections.
    - 3) No basepan penetration, other than those authorized by the manufacturer, is permitted.
9. Component access panels (standard):
  - a. Cabinet panels shall be easily removable for servicing.
  - b. Unit shall have one factory installed, tool-less, removable, filter access panel.
  - c. Panels covering control box, indoor fan, indoor fan motor, gas components (where applicable), and compressors shall have molded composite handles.
  - d. Handles shall be UV modified, composite. They shall be permanently attached, and recessed into the panel.
  - e. Screws on the vertical portion of all removable access panel shall engage into heat resistant, molded composite collars.
  - f. Collars shall be removable and easily replaceable using manufacturer recommended parts.
- H. (23 81 19.13.H.) Coils:
  1. Standard Aluminum Fin-Copper Tube Coils:
    - a. Standard evaporator and condenser coils shall have aluminum lanced plate fins mechanically bonded to seamless internally grooved copper tubes with all joints brazed.
    - b. Evaporator coils shall be leak tested to 150 psig, pressure tested to 450 psig, and qualified to UL 1995 burst test at 1775 psig.
    - c. Condenser coils shall be leak tested to 150 psig, pressure tested to 650 psig, and qualified to UL 1995 burst test at 1980 psig.
  2. Optional Pre-coated aluminum-fin condenser coils:
    - a. Shall have a durable epoxy-phenolic coating to provide protection in mildly corrosive coastal environments.
    - b. Coating shall be applied to the aluminum fin stock prior to the fin stamping process to create an inert barrier between the aluminum fin and copper tube.
    - c. Epoxy-phenolic barrier shall minimize galvanic action between dissimilar metals.
    - d. Corrosion durability of fin stock shall be confirmed through testing to be no less than 1000 hours salt spray per ASTM B117-90.
    - e. Corrosion durability of fin stock shall be confirmed through testing to have no visible corrosion after 48 hour immersion in a room temperature solution of 5% salt, 1% acetic acid.
    - f. Fin stock coating shall pass 2000 hours of the following: one week exposure in the prohesion chamber followed by one week of accelerated ultraviolet light testing. Prohesion chamber: the solution shall contain 3.5% sodium chloride and 0.35% ammonium sulfate. The exposure cycle is one hour of salt fog application at ambient followed by one hour drying at 95°F (35°C).
3. Optional Copper-fin evaporator and condenser coils:
  - a. Shall be constructed of copper fins mechanically bonded to copper tubes and copper tube sheets.
  - b. Galvanized steel tube sheets shall not be acceptable.
  - c. A polymer strip shall prevent coil assembly from contacting the sheet metal coil pan to minimize potential for galvanic corrosion between coil and pan.
4. Optional E-coated aluminum-fin evaporator and condenser coils:
  - a. Shall have a flexible epoxy polymer coating uniformly applied to all coil surface areas without material bridging between fins.
  - b. Coating process shall ensure complete coil encapsulation of tubes, fins and headers.
  - c. Color shall be high gloss black with gloss per ASTM D523-89.
  - d. Uniform dry film thickness from 0.8 to 1.2 mil on all surface areas including fin edges.
  - e. Superior hardness characteristics of 2H per ASTM D3363-92A and cross-hatch adhesion of 4B-5B per ASTM D3359-93.
  - f. Impact resistance shall be up to 160 in. lb (ASTM D2794-93).
  - g. Humidity and water immersion resistance shall be up to minimum 1000 and 250 hours respectively (ASTM D2247-92 and ASTM D870-92).
  - h. Corrosion durability shall be confirmed through testing to be no less than 1000 hours salt spray per ASTM B117-90.
- I. (23 81 19.13.I.) Refrigerant Components:
  1. Refrigerant circuit shall include the following control, safety, and maintenance features:
    - a. TXV metering system on all models shall include a multiple feed distribution system.

- b. Refrigerant filter drier - Solid core design.
  - c. Service gage connections on suction and discharge lines.
  - d. Pressure gage access through a specially designed access port in the top panel of the unit.
2. There shall be gage line access port in the skin of the rooftop, covered by a black, removable plug.
- a. The plug shall be easy to remove and replace.
  - b. When the plug is removed, the gage access port shall enable maintenance personnel to route their pressure gage lines.
  - c. This gage access port shall facilitate correct and accurate condenser pressure readings by enabling the reading with the compressor access panel on.
  - d. The plug shall be made of a leak proof, UV-resistant, composite material.
3. Compressors:
- a. Unit shall use fully hermetic, reliable variable capacity compressor with DC inverter control on all sizes with:
    - 1) Two LEDs (red and green) indicate inverter operating status and aid in troubleshooting.
    - 2) Noise filter reduces unwanted electromagnetic interference (EMI).
    - 3) Inverter reactor adds inductance to the line between the inverter and the compressor to limit current rise and protect the compressor.
  - b. Compressor motors shall be cooled by refrigerant gas passing through motor windings.
  - c. Compressors shall be internally protected from high discharge temperature conditions.
  - d. Compressors shall be protected from an over-temperature and over-ampereage conditions by an internal, motor overload device.
  - e. Compressor shall be factory mounted on rubber grommets.
  - f. Compressor motors shall have internal line break thermal, current overload and high pressure differential protection.
  - g. Crankcase heaters shall not be required for normal operating range, unless required by compressor manufacturer due to refrigerant charge limits.
- J. (23 81 19.13.J.) Filter Section:
- 1. Filters access is specified in the unit cabinet section of this specification.
  - 2. Filters shall be held in place by a pivoting filter tray, facilitating easy removal and installation.
  - 3. Shall consist of factory installed, low velocity, throw-away 2-in. thick fiberglass filters.
4. Filters shall be standard, commercially available sizes.
5. Only one size filter per unit is allowed.
- K. (23 81 19.13.K.) Evaporator Fan and Motor with EcoBlue™ Technology:
- 1. Direct Drive Evaporator fan motor:
    - a. Shall be a ECM motor design.
    - b. Shall have permanently lubricated bearings.
    - c. Shall have inherent automatic-reset thermal overload protection.
    - d. Shall have slow ramp up to speed capabilities.
    - e. Shall require no fan/motor belts for operation, adjustments and or initial fan speed set up.
    - f. Fan set up on SystemVu™ controller can eliminate the need of removal of blower access door, required on conventional belt drive systems.
    - g. Shall be internally protected from electrical phase reversal and loss.
    - h. Shall be a slide out design for easy maintenance and service.
  - 2. Evaporator Fan:
    - a. Shall be easily set through the SystemVu™ controller.
    - b. Blower fan shall be a Vane Axial fan design with 75% less moving parts than a conventional belt drive system.
    - c. Shall be constructed of a cast aluminum stator and high impact composite material on rotor and air inlet casing.
    - d. Shall be a patented / pending design with a corrosion resistant material and dynamically balanced.
    - e. Shall have slow ramp up to speed capabilities to help reduce sound and comfort issues typically associated with single speed belt drive systems.
    - f. Shall be a slide out design with two screw removal.
- L. (23 81 19.13.L.) Condenser Fans and Motors:
- 1. Condenser fan motors:
    - a. Shall be a totally enclosed motor.
    - b. Shall use permanently lubricated bearings.
    - c. Shall have inherent thermal overload protection with an automatic reset feature.
    - d. Shall use a shaft-down design on all sizes.
    - e. Shall be variable speed design and controlled by base unit SystemVu™ controller.
  - 2. Condenser Fans:
    - a. Shall be a direct-driven propeller type fan constructed of high impact composite material.

- b. Shall have high impact composite blades completely formed into one piece without blade fasteners or connectors and shall be dynamically balanced.
- M. (23 81 19.13.M.) Special Features Options and Accessories:
- 1. Integrated EconoMi\$er®2 low leak rate model.
    - a. Integrated, gear driven opposing modulating blade design type capable of simultaneous economizer and compressor operation.
    - b. Independent modules for vertical or horizontal return configuration shall be available. Vertical return modules shall be available as a factory installed option.
    - c. Damper blades shall be galvanized steel with composite gears. Plastic or composite blades on intake or return shall not be acceptable.
    - d. Shall include all hardware and controls to provide free cooling with outdoor air when temperature and/or humidity are below setpoints.
    - e. Shall be equipped with gear driven dampers for both the outdoor ventilation air and the return air for positive air stream control.
    - f. Standard leak rate shall be equipped with dampers not to exceed 2% leakage at 1 in. wg pressure differential.
    - g. Economizer controller on EconoMi\$er 2 models with SystemVu controller shall be a 4 to 20mA design controlled directly by the controller. SystemVu controller meets California Title 24, ASHRAE 90.1 and IECC Fault Detection and Diagnostic (FDD) requirements.
    - h. Shall be capable of introducing up to 100% outdoor air.
    - i. Shall be equipped with a barometric relief damper capable of relieving up to 100% return air and contain seals that meet ASHRAE 90.1 requirements.
    - j. Shall be designed to close damper(s) during loss-of-power situations with spring return built into motor.
    - k. Dry bulb outdoor air temperature sensor shall be provided as standard. Enthalpy sensor is also available on factory-installed economizers only. Outdoor air sensor setpoint shall be adjustable and shall range from 40°F to 100°F (4°C to 38°C). Additional sensor options shall be available as accessories.
    - l. The economizer controller shall also provide control of an accessory power exhaust unit function. Factory set at 100%, with a range of 0% to 100%.
    - m. The economizer shall maintain minimum air-flow into the building during occupied period and provide design ventilation rate for full occupancy.
  - n. Dampers shall be completely closed when the unit is in the unoccupied mode.
  - o. Economizer controller shall accept a 2 to 10 vdc CO<sub>2</sub> sensor input for IAQ/DCV control. In this mode, dampers shall modulate the outdoor air damper to provide ventilation based on the sensor input.
  - p. Compressor lockout temperature on W7220 control is adjustable from -45°F to 80°F (-43°C to 27°C), set at a factory default of 32°F (0°C). W7212 control opens at 35°F (2°C) and closes at 50°F (10°C).
  - q. Actuator shall be direct coupled to economizer gear. No linkage arms or control rods shall be acceptable.
  - r. Economizer controller shall provide indications when in free cooling mode, in the DCV mode, or the exhaust fan contact is closed.
- 2. Integrated EconoMi\$er®2 Ultra Low Leak rate model.
    - a. Integrated, gear driven opposing modulating blade design type capable of simultaneous economizer and compressor operation.
    - b. Independent modules for vertical or horizontal return configuration shall be available. Vertical return modules shall be available as a factory installed option.
    - c. Damper blades shall be galvanized steel with composite gears. Plastic or composite blades on intake or return shall not be acceptable.
    - d. Shall include all hardware and controls to provide free cooling with outdoor air when temperature and/or humidity are below setpoints.
    - e. Shall be equipped with gear driven dampers for both the outdoor ventilation air and the return air for positive air stream control.
    - f. Ultra Low Leak design meets California Title 24 section 140.4 and ASHRAE 90.1 requirements for 4 cfm per sq. ft. on the outside air dampers and 10 cfm per sq. ft. on the return dampers.
    - g. Economizer controller on EconoMi\$er 2 models with SystemVu™ controller shall be a 4-20mA design controlled directly by the controller. SystemVu controller meets California Title 24, ASHRAE 90.1 and IECC Fault Detection and Diagnostic (FDD) requirements.
    - h. Shall be capable of introducing up to 100% outdoor air.
    - i. Shall be equipped with a barometric relief damper capable of relieving up to 100% return air and contain seals that meet ASHRAE 90.1 requirements.

- j. Shall be designed to close damper(s) during loss-of-power situations with spring return built into motor.
  - k. Dry bulb outdoor air temperature sensor shall be provided as standard. Enthalpy sensor is also available on factory-installed economizers only. Outdoor air sensor setpoint shall be adjustable and shall range from 40°F to 100° F (4°C to 38°C). Additional sensor options shall be available as accessories.
  - l. The economizer controller shall also provide control of an accessory power exhaust unit function. Factory set at 100%, with a range of 0% to 100%.
  - m. The economizer shall maintain minimum airflow into the building during occupied period and provide design ventilation rate for full occupancy.
  - n. Dampers shall be completely closed when the unit is in the unoccupied mode.
  - o. Economizer controller shall accept a 2 to 10 vdc CO<sub>2</sub> sensor input for IAQ/DCV control. In this mode, dampers shall modulate the outdoor air damper to provide ventilation based on the sensor input.
  - p. Compressor lockout temperature on W7220 control is adjustable from -45°F to 80°F (-43°C to 27°C), set at a factory default of 32°F (0°C). W7212 control opens at 35°F (2°C) and closes at 50°F (10°C).
  - q. Actuator shall be direct coupled to economizer gear. No linkage arms or control rods shall be acceptable.
  - r. Economizer controller shall provide indications when in free cooling mode, in the DCV mode, or the exhaust fan contact is closed.
3. Humidi-MiZer® Adaptive Dehumidification System:
- a. The Humidi-MiZer Adaptive Dehumidification System shall be factory installed and shall provide greater dehumidification of the occupied space by two modes of dehumidification operations in addition to its normal design cooling mode:
    - 1) Subcooling mode further sub cools the hot liquid refrigerant leaving the condenser coil when both temperature and humidity in the space are not satisfied.
    - 2) Hot gas reheat mode shall mix a portion of the hot gas from the discharge of the compressor with the hot liquid refrigerant leaving the condenser coil to create a two-phase heat transfer in the system, resulting in a neutral leaving air temperature when only humidity in the space is not satisfied.
4. Condenser Coil Hail Guard Assembly:
- a. Shall protect against damage from hail.
- b. Shall be either hood style or louvered.
5. Unit-Mounted, Non-Fused Disconnect Switch (Available on units with MOCs of 80 amps or less):
- a. Switch shall be factory installed, internally mounted.
  - b. National Electric Code (NEC) and UL approved non-fused switch shall provide unit power shutoff.
  - c. Shall be accessible from outside the unit.
  - d. Shall provide local shutdown and lockout capability.
  - e. Sized only for the unit as ordered from the factory. Does not accommodate field-installed devices.
6. HACR Breaker:
- a. These manual reset devices provide overload and short circuit protection for the unit. Factory wired and mounted with the units, with access cover to help provide environmental protection. On 575V applications, HACR breaker can only be used with WYE power distribution systems. Use on Delta power distribution systems is prohibited.
  - b. Sized only for the unit as ordered from the factory. Does not accommodate field-installed devices.
7. Convenience Outlet:
- a. Powered convenience outlet.
    - 1) Outlet shall be powered from main line power to the rooftop unit.
    - 2) Outlet shall be powered from line side or load side of disconnect by installing contractor, as required by code. If outlet is powered from load side of disconnect, unit electrical ratings shall be UL certified and rated for additional outlet amperage.
    - 3) Outlet shall be factory-installed and internally mounted with easily accessible 115-v female receptacle.
    - 4) Outlet shall include 15 amp GFI receptacles with independent fuse protection.
    - 5) Voltage required to operate convenience outlet shall be provided by a factory installed step-down transformer.
    - 6) Outlet shall be accessible from outside the unit.
    - 7) Outlet shall include a field installed “Wet in Use” cover.
  - b. Factory-Installed Non-Powered convenience outlet.
    - 1) Outlet shall be powered from a separate 115/120v power source.
    - 2) A transformer shall not be included.
    - 3) Outlet shall be factory-installed and internally mounted with easily accessible 115-v female receptacle.

- 4) Outlet shall include 15 amp GFI receptacles with independent fuse protection.
- 5) Outlet shall be accessible from outside the unit.
- 6) Outlet shall include a field installed "Wet in Use" cover.
- c. Field-Installed non-powered convenience outlet.
  - 1) Outlet shall be powered from a separate 115/120v power source.
  - 2) A transformer shall not be included.
  - 3) Outlet shall be field-installed and internally mounted with easily accessible 115-v female receptacle.
  - 4) Outlet shall include 20 amp GFI receptacles. This kit provides a flexible installation method which allows code compliance for height requirements of the GFCI outlet from the finished roof surface as well as the capability to relocate the outlet to a more convenient location.
  - 5) Outlet shall be accessible from outside the unit.
  - 6) Outlet shall include a field installed "Wet in Use" cover.
8. Thru-the-Base Connectors:
  - a. Kits shall provide connectors to permit gas and electrical connections to be brought to the unit through the unit basepan.
  - b. Minimum of four connection locations per unit.
9. Propeller Power Exhaust:
  - a. Power exhaust shall be used in conjunction with an integrated economizer.
  - b. Independent modules for vertical or horizontal return configurations shall be available.
  - c. Horizontal power exhaust is shall be mounted in return ductwork.
  - d. Power exhaust shall be controlled by economizer controller operation. Exhaust fans shall be energized when dampers open past the 0 to 100% adjustable setpoint on the economizer control.
10. Roof Curbs (Vertical):
  - a. Full perimeter roof curb with exhaust capability providing separate air streams for energy recovery from the exhaust air without supply air contamination.
  - b. Formed galvanized steel with wood nailer strip and shall be capable of supporting entire unit weight.
  - c. Permits installation and securing of ductwork to curb prior to mounting unit on the curb.
11. Outdoor Air Enthalpy Sensor:
  - a. The outdoor air enthalpy sensor shall be used to provide single enthalpy control. When used in conjunction with a return air enthalpy sensor, the unit will provide differential enthalpy control. The sensor allows the unit to determine if outside air is suitable for free cooling.
12. Return Air Enthalpy Sensor:
  - a. The return air enthalpy sensor shall be used in conjunction with an outdoor air enthalpy sensor to provide differential enthalpy control.
13. Indoor Air Quality (CO<sub>2</sub>) Sensor:
  - a. Shall be able to provide demand ventilation indoor air quality (IAQ) control.
  - b. The IAQ sensor shall be available in duct mount, wall mount, or wall mount with LED display. The setpoint shall have adjustment capability.
14. Smoke detectors (factory-installed only):
  - a. Shall be a four-wire controller and detector.
  - b. Shall be environmental compensated with differential sensing for reliable, stable, and drift-free sensitivity.
  - c. Shall use magnet-activated test/reset sensor switches.
  - d. Shall have tool-less connection terminal access.
  - e. Shall have a recessed momentary switch for testing and resetting the detector.
  - f. Controller shall include:
    - 1) One set of normally open alarm initiation contacts for connection to an initiating device circuit on a fire alarm control panel.
    - 2) Two Form-C auxiliary alarm relays for interface with rooftop unit or other equipment.
    - 3) One Form-C supervision (trouble) relay to control the operation of the Trouble LED on a remote test/reset station.
    - 4) Capable of direct connection to two individual detector modules.
    - 5) Can be wired to up to 14 other duct smoke detectors for multiple fan shut-down applications.
15. Hinged Access Panels:
  - a. Shall provide easy access through integrated quarter turn latches.
  - b. Shall be on major panels of: filter, control box, fan motor, and compressor.
16. Condensate overflow switch:
  - a. This sensor and related controller monitors the condensate level in the drain pan and shuts down compression operation when overflow conditions occur. It includes:
    - 1) Indicator light — solid red (more than 10 seconds on water contact — compressors disabled), blinking red (sensor disconnected).

- 2) 10 second delay to break — eliminates nuisance trips from splashing or waves in pan (sensor needs 10 seconds of constant water contact before tripping).
  - 3) Disables the compressor(s) operation when condensate plug is detected, but still allows fans to run for economizer.
17. Foil Faced Insulation:
- a. Throughout unit cabinet air stream, non-fibrous and cleanable foil faced insulation is used.
18. MERV-8 Return Air filters:
- a. Factory option to upgrade standard unit filters to MERV-8 filters.
19. Phase Monitor Control:
- a. Shall monitor the sequence of three phase electrical system to provide a phase reversal protection
  - b. Shall monitor the three phase voltage inputs to provide a phase loss protection for the three phase device.
  - c. Will work on either a Delta or Wye power connection.
20. Horn/Strobe Annunciator:
- a. Provides an audible/visual signaling device for use with factory-installed option or field installed accessory smoke detectors.
- 1) Requires installation of a field-supplied 24-v transformer suitable for 4.2 VA (AC) or 3.0 VA (DC) per horn/strobe accessory.
  - 2) Requires field-supplied electrical box, North American 1-gang box, 2-in. (51 mm) x 4-in. (102 mm).
  - 3) Shall have a clear colored lens.
21. Electric Heat:
- a. Heating Section:
    - 1) Heater element open coil resistance wire, nickel-chrome alloy, 0.29-in. inside diameter, strung through ceramic insulators mounted on metal frame. Coil ends are staked and welded to terminal screw slots.
    - 2) Heater assemblies are provided with integral fusing for protection of internal heater circuits not exceeding 48 amps each. Auto reset thermo limit controls, magnetic heater contactors (24-v coil) and terminal block all mounted in electric heater control box (minimum 18 ga galvanized steel) attached to end of heater assembly.



